

DOCUMENT RESUME

ED 385 560

TM 023 982

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TITLE Change in Field of Study from Undergraduate to Graduate School: Creation of a GRE Data Base for Studying Talent Flow. GRE Board Professional Report No. 86-12P.
INSTITUTION Educational Testing Service, Princeton, N.J.
SPONS AGENCY Graduate Record Examinations Board, Princeton, N.J.
REPORT NO ETS-RR-91-58
PUB DATE Apr 92
NOTE 134p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Aptitude; *Change; Course Selection (Students); Databases; *Educational Trends; Engineering; *Graduate Students; Higher Education; *Majors (Students); Matrices; Sciences; Specialization; Talent; Trend Analysis; *Undergraduate Students
IDENTIFIERS *Data Files; *Graduate Record Examinations

ABSTRACT

In recent years the Graduate Record Examinations (GRE) files have become recognized as a valuable resource for studies of talent flow, but the length and complexity of the files have made it costly to extract the information. A special GRE talent flow database was designed, covering the years 1978 to 1987, with three different structures: (1) an individual examinee file with one record for each subject; (2) a matrix in which rows correspond to intended graduate fields of study and columns correspond to undergraduate majors; and (3) a matrix that collapses the 100 specific major fields into 10 general fields. All three databases are available on computer files for public use, and the matrixes are available in hard copy. Among the many findings is the steady growth in engineering, physical sciences, and mathematics as graduate fields, as contrasted with the decline and subsequent upswing since 1984 of the other broad fields. The common belief that as numbers entering a field decline, student quality rises, and as numbers increase, student quality declines was not supported. Overall, test takers appeared to choose graduate fields in keeping with their relative verbal and quantitative skills. Five appendixes present supplemental information about the data files and their format. Five tables (39 subtables) present study findings. (Contains 23 references.) (SLD)

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RESEARCH

Change in Field of Study from Undergraduate to Graduate School: Creation of a GRE Data Base for Studying Talent Flow

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GRE Board Professional Report No. 86-12P
ETS Research Report 91-58

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Educational Testing Service, Princeton, New Jersey

Change in Field of Study from Undergraduate to Graduate School:
Creation of a GRE Data Base for Studying Talent Flow

Jerilee Grandy
and
Nancy Robertson

GRE Board Report No. 86-12P

April 1992

This report presents the findings of a
research project funded by and carried
out under the auspices of the Graduate
Record Examinations Board.

Educational Testing Service, Princeton, N.J. 08541

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Abstract

In recent years the Graduate Record Examinations (GRE) files have become recognized as a valuable source for studies of talent flow. When test takers register to take the GRE, they complete a background questionnaire that asks, among other things, their undergraduate major field and their intended field of graduate study. With this information, along with subsequent test scores, grades, parents' education, age, gender, ethnic group, citizenship, and other variables, we are able to examine patterns that relate major field choices, and changes in those choices, to background data and academic ability.

Studies using the GRE files had been costly because of the length and complexity of the files and because of the careful and tedious programming that has had to be done to accommodate the coding changes that took place as the questionnaire was revised over the years. If we were to conduct further talent flow studies using the GRE data, it became clear that we needed a data base designed especially for that purpose.

In this project we designed a special GRE talent flow data base from 1978 to 1987 having three different structures. The first is an individual examinee file in which one record exists for each test taker. The record is short and identically formatted from year to year. The second structure is a matrix in which rows correspond to intended graduate fields of study and columns correspond to undergraduate majors. One hundred major fields are arranged in a rational order. Contained within the cells of the matrices are statistics such as numbers of test takers, mean GRE verbal score, percentage planning to earn a doctorate, numbers of minorities, and so forth. The third matrix structure collapses the 100 specific fields into 10 general fields. All three data bases are on computer files for public use; the matrices are available in hard copy as well.

During the project, we demonstrated some uses of the data base and devoted considerable effort to the design of graphic representations that could clearly express various aspects of talent flow.

Some of the findings from our examples (on U.S. citizens only) were as follows:

- Engineering, physical sciences, and mathematics showed steady growth as graduate fields of study, whereas all other broad fields showed declines through about 1984 and then increases.
- The common belief that as numbers entering a field decline, student quality rises, and as numbers rise, quality declines, was not supported.
- The percentage of examinees over age 30 increased from 15% to 28%; the greatest percentage were in the service professions.
- The percentage of female test takers grew only slightly; physical sciences and engineering showed very little increase in female representation.
- Consistent with the decline in doctorates earned by Black students was the number of Black test takers, which also declined.

- Among test takers with degrees in humanities, and physical, biological, and social sciences, a higher percentage of women than men changed fields for graduate work. Among those in health sciences, education, and business, men were more likely to change than were women.
- Test takers appeared to choose graduate specialties consistent with their relative verbal and quantitative skills, as reflected in their GRE scores: low-scoring students in demanding undergraduate fields appeared to move to less demanding graduate fields, and high-scoring individuals in less demanding fields appeared to move to more demanding ones.

CONTENTS

PART I. TALENT-FLOW DATA BASE DESIGN

| | |
|---|---|
| <i>BACKGROUND</i> | 1 |
| Reasons for Studying Talent Flow | 1 |
| Suitable Data Bases | 2 |
| Studies of Talent Flow | 3 |
| Design of a Special GRE Talent Flow Data Base | 6 |
| <i>DATA BASE DESIGN</i> | 7 |
| Years of Data Included | 7 |
| Design Considerations | 7 |

PART II. USE OF THE DATA BASE

| | |
|--|-----|
| <i>ANALYSIS AND PRESENTATION OF DATA</i> | 13 |
| <i>EXAMPLE 1: TRENDS IN THE SELECTION OF GRADUATE FIELD OF STUDY</i> | 14 |
| GRE Population Trends | 14 |
| Trends within the Ten Broad Fields of Graduate Study | 18 |
| Age, Gender, and Ethnic Composition | 27 |
| Trends among Doctoral Candidates | 33 |
| <i>EXAMPLE 2: CHARACTERISTICS OF EXAMINEES WHO CHANGE FIELDS</i> | 36 |
| Changers versus Nonchangers | 37 |
| Variables Associated with the Decision to Change Fields | 44 |
| <i>EXAMPLE 3: A LOOK AT GRADUATE FIELD CHOICE FROM ANOTHER ANGLE</i> | 48 |
| <i>COMMENT ON THE EXAMPLES</i> | 55 |
| <i>SUGGESTIONS FOR FURTHER RESEARCH</i> | 55 |
| <i>RESEARCH ON INDIVIDUAL FIELDS OF STUDY</i> | 56 |
| <i>MODELS TO EXPLAIN TRENDS</i> | 57 |
| <i>STUDIES OF PARTICULAR SUBPOPULATIONS</i> | 57 |
| <i>TABLES</i> | 59 |
| <i>APPENDIXES</i> | 99 |
| <i>REFERENCES</i> | 125 |

PART I. TALENT-FLOW DATA BASE DESIGN

BACKGROUND

Reasons for Studying Talent Flow

Higher education is a critical national resource. Success in all of our endeavors, from mathematics to the arts, depends on higher education.

Leadership in science and technology demands that our scientists and engineers create new frontiers of knowledge and lead in the development of technological innovations. At the same time, our survival depends on expanding our awareness and understanding of our relationship with the natural environment so we do not destroy the organism that feeds us. Our economic and political systems are among the most complex in history, requiring ongoing observations and measurements; we monitor countless "indicators" of the health of our society and create theories and prediction models to anticipate progress and foresee catastrophes. The preservation and growth of our culture--its arts, languages, and philosophies, its expressions of what it means to be human--could be lost by a careless shift in educational priorities. The continuing progress of our nation requires well-informed education policymaking and the finest quality teaching. Our scientific, economic, cultural, and political survival depend on higher education.

In their passage through the educational pipeline, students may choose and change direction many times. Their choice of direction at any particular moment depends on many forces--academic skills; influences of family, teachers, and peers; financial resources; satisfaction with courses; perceived rewards of occupations; and anticipated job markets. It is central to the American Dream for each individual to work at an occupation in which he or she experiences fulfillment. Most of us share the belief that by doing so, both the individual and society benefit to the fullest, that is, society maximizes its human resources, and individuals achieve their maximum potential.

When a shortage or surplus of talent occurs in any academic or occupational area, one result is a failure to maximize human resources and individual potential. An oversupply of scientists and engineers in the late sixties resulted in a surplus of talent that was then wasted when people had to be "retooled" for other jobs. The present flow of talent away from nursing into more lucrative and prestigious professions has resulted in a critical nursing shortage. Society at large, as well as the individual who has devoted time and money to education, suffers when there is an imbalance between the supply of trained people and the demands of a profession.

We have used the expression "talent flow" to mean the movement of people having various skills and abilities from one line of endeavor to another. From studies of talent flow, we can monitor changes in the supply of people training for different types of occupations, and we can observe changes in the personal characteristics of students entering specific fields and the kinds of academic preparation they have.

Based on what we report from observation, policy makers, educators, members of the professions themselves, as well as the news media can intervene to provide information to students who are making career decisions. Educators and policy makers can provide improved instruction as well as financial support and incentives. The professions and the news media have the power to alter the image of a profession either to attract or to repel students. The outcome can be changes in the flow of talent--changes having the potential both to improve the student's ability to choose a satisfying career and to improve the utilization of human resources.

Suitable Data Bases

To study talent flow, we must have large, accurate, regularly updated data bases. There are currently a number of data bases containing information on students' plans and aspirations at various times in their academic careers. Some of the more readily available sources include the National Longitudinal Study of the Class of 1972 (NLS), High School and Beyond (HS&B), Scholastic Aptitude Test (SAT) files, the Cooperative Institutional Research Program (CIRP), and the Graduate Record Examination (GRE) files.

The first two of these sources are derived from longitudinal studies of high school students sponsored by the National Center for Education Statistics. NLS data collection began with the senior year of the high school class of 1972, and HS&B began with sophomore year data on the high school class of 1980. Both studies continued with additional data collection periodically thereafter.

The Scholastic Aptitude Test (SAT) files of the College Board also provide information on the plans of high school seniors at the time they take the SAT. While this is not a longitudinal data base, followup surveys of students can be conducted. The SAT files can also be matched with the GRE data base at a later time to follow up that subset of students who take both exams. Educational Testing Service (ETS), which administers the GRE, recently created a matched file containing the records of nearly half a million students who took the GRE between 1985 and 1989 and who took the SAT between 1980 and 1986. This very large data base contains all of the information from both the SAT and GRE records, including information from repeated testings. On the average, there are five records for each student.

Even without later student information, the SAT files contain a considerable quantity of background data that can be related to test scores and intended college major. The Student Descriptive Questionnaire (SDQ), which is completed by more than 90% of all students registering to take the SAT, contains a question about intended major field of study as well as many other questions related to background and future plans.

CIRP data, which are collected annually on a large nationwide sample of college freshmen, contain information about student background, interests, aspirations, and values. At present, CIRP is the nation's largest empirical study of higher education, with data on more than eight million students.

As students near completion of their undergraduate work, or at any time following graduation, those who plan to attend graduate or professional school may again change their field of study. Students who take the GRE provide essential talent flow information. The GRE

background questionnaire contains two questions having a direct bearing on talent flow. One asks for the student's major field as an undergraduate, and the other asks for the intended graduate field of study. Students make a critical decision when they choose whether or not to enroll in graduate school, and if they do enroll, whether to remain in the same field of study.

The GRE files themselves and the Data Summary Reports produced annually from those files provide a data base for studying talent flow from undergraduate to graduate school.

Studies of Talent Flow

In August 1987, the director of the GRE Program proposed a framework for the study of talent flow to graduate education (Kuh, 1987). She contended that an awareness of the supply of graduate-educated workers is important to government, to industry, and to academia. Among possible research studies she suggested the exploration of early indicators of interest in graduate school through a matched GRE-SAT data base, studies of the effects of labor market and non-economic factors on choices of undergraduate and graduate major, and studies of both foreign talent flow and minority talent flow. As sources, she suggested the NLS data base, High School and Beyond surveys, Astin's college freshmen (CIRP) data, NAEP, and the National Research Council's Survey of Doctorate Recipients, as well as the SAT and GRE data bases.

The GRE Board has since funded a number of studies of talent flow, some based on the GRE files, and some on other data bases. The following studies conducted at ETS highlight some recent research on talent flow funded by the GRE Board as well as other agencies and foundations.

NLS data base. A study entitled Pathways to Graduate School, conducted by Hilton and Schrader (1986), analyzed the NLS data base. Beginning with high school data on the class of 1972, this data base now contains additional follow-up information collected in 1973, 1974, 1976, 1979, and 1986.

HS&B data base. Subsequently, Hilton and Pollack received GRE funding to study talent flow in the 1980 High School and Beyond data base. Their study (Hilton & Pollack, 1989), which compared the HS&B data base with the 1972 NLS data base, showed declines in the percentages of Black males who completed undergraduate school, and particularly in the percentages of high-ability Black males who did so. These declines were seen as particularly troubling and are the subject of another study now in progress.

As a part of the Hilton and Pollack study, GRE scores were retrieved for 370 people in the HS&B cohort. These scores were the subjects of a separate analysis.

SAT data base. In a study funded by NSF, Hilton, Hsia, Solorzano, and Benton (1989) selected a sample of 6,000 high-scoring minority SAT examinees planning to major in math, science, and engineering. They surveyed these students two years after high school graduation and again five years afterward. The results indicated that the high-ability minority students persisted in their

science careers at a rate equal to or higher than a comparison sample of high-ability White students.

Grandy has analyzed the SAT files annually for trends in the popularity of various major fields, especially among high-scoring students. The National Endowment for the Humanities (NEH) funded a study of the changing characteristics of prospective humanities majors in which she analyzed trends in the SAT scores and background data on high school seniors taking the SAT and planning to major in humanities (Grandy, 1984a; Grandy & Courtney, 1985).

Grandy found that during the infamous score-decline era, the "quality" of students planning to major in most areas of the humanities was not declining as severely as the overall SAT score. Though a decreasing percentage of students planned to major in the humanities, they tended to be the better students. Allegations that the brightest high school seniors were being drawn into fields like medicine and business appeared not to be true.

Similar studies are being funded biennially by NSF. From those studies we have been able to follow trends in the popularity of all major fields among high school seniors, to observe trends in the test scores of prospective science majors, and to note which fields tend to draw the brightest students (Grandy, 1987, 1989, 1990a).

The information obtained from the SAT files has provided useful indicators of how effectively the professions are attracting talented high school students and how other forces in students' lives are driving them into or away from particular fields. In addition, we are able to see what kinds of academic preparation students have for their chosen fields of interest.

GRE data base. The GRE Board, in addition to other agencies, has funded a number of studies describing the talent flow of GRE takers.

A GRE-funded study by Baird (1982) followed a group of GRE examinees intending to pursue graduate study in four fields. About 1,800 applicants in each of the fields of English, psychology, and education were surveyed, along with about 700 in microbiology. Baird drew samples of examinees intending study in these fields from the 1979-80 GRE administrations and surveyed them about the success of their applications to graduate departments. A follow-up survey requested information on the examinees' satisfaction with, and success in, their respective departments.

Another longitudinal study of GRE examinees is still in progress. Wilder is currently directing a project that was begun in 1987 by Nettles and Wilder as a survey of a small sample of 1986-87 GRE takers on the subject of financial aid. The sample included approximately 900 Black, 900 Hispanic, and 900 other (mostly White) GRE takers from that year. There have been three follow-up surveys since the original financial aid survey, with about 75% of the originally sampled examinees continuing to respond. Examinees who did not enter graduate school have also been retained in the data base. Because some of the examinees who entered graduate school soon after taking the GRE were approaching termination of their degree programs, the data base provides information on attendance, persistence, and completion of graduate programs in various program areas.

Based on the first year's data from the Nettles and Wilder study, Grandy (1990b) examined the validity of the GRE background question on intended field of study and found it to be a reasonably valid indicator of the actual field in which the examinee would subsequently be enrolled.

Another GRE talent flow study (Grandy, 1992) just being completed is a survey of a stratified sample of undergraduates who planned to earn bachelor's degrees in math, physical sciences, and engineering and who took the GRE in December 1990. This study will contribute to our understanding of the various factors that distinguish between people who remain in the sciences and those who change into another field.

Back in 1983, the National Endowment for the Humanities (NEH) recognized the value of the information in the GRE data base and funded two projects to study the characteristics of GRE examinees planning graduate work in the humanities. The first of these studies (Grandy, 1984a) compared prospective graduate humanities students with examinees planning studies in other areas, and it analyzed patterns in changes in major field selection from undergraduate to graduate school.

That study required analysis at a more detailed level than what appeared in the Data Summary Reports. The results showed that examinees planning to major in many areas of the humanities at the graduate level did not suffer from a GRE score decline at all, whereas there was a decline among examinees overall. The mean verbal scores of U.S. citizens planning to study foreign languages at the graduate level actually increased from 554 to 561 between 1976 and 1984. It appeared that the "best" students were not leaving the humanities, as some had suspected. These findings were similar for each gender and for each ethnic group studied.

The information from that study was of considerable interest not only to NEH, but to government agencies, universities, foundations that support the humanities, and the academic community at large.

The second study funded by NEH (Grandy & Courtney, 1985) attempted to explain the results of the first study. It suggested that students who discover that they are achieving well above the level of their colleagues may plan to move into a more challenging field. Students feeling that they are less able than their colleagues may choose a less demanding field. But there were other trends, such as a flow of talent out of the humanities, that were not explained by the GRE data alone. Grandy and Courtney concluded that many social and economic explanations offered by the media were only partially true, and in many instances, were completely fallacious. Quite possibly, it was the pseudostatistical information promulgated by the media that was largely responsible for driving students away from the humanities and, to some extent, away from higher education.

Grandy conducted a similar study of the GRE data base for NSF, the results of which were prepared for the NSF publication *Science Indicators*. NSF was especially interested in future science and math teachers--the ones who would have bachelor's degrees in a science or math field and who planned to earn a master's degree in education.

The data showed, perhaps not surprisingly, that among GRE examinees with undergraduate degrees in math, science, or engineering, the mean GRE quantitative scores and

mean undergraduate grade point averages of those planning to do graduate work in science areas were considerably higher than the mean scores and grade averages of those planning to study education (Grandy, 1984b). An examinee who has majored in physics but has earned less than exemplary grades in physics and expects to obtain relatively low GRE scores may enroll in a graduate program in education with the intention of teaching physics or a related subject. So long as education is perceived as a default option, it is bound to attract a number of low-scoring, low-achieving students.

Once the GRE data base was recognized as a valuable source for talent-flow studies, representatives of a variety of professions began inquiring about the flow of students into and out of their fields. In a study for the Lilly Endowment (Grandy & Greiner, 1990), for example, it was found that examinees planning to enter the ministry (as inferred from several background questionnaire items) came from a variety of backgrounds, and that those who had majored in religion as undergraduates earned lower average GRE scores than examinees who majored in other areas. Among candidates for the ministry, women earned higher GRE scores than men, and their undergraduate grades were higher. These findings were important to religious leaders, and they confirmed anecdotal information from seminaries.

Design of a Special GRE Talent Flow Data Base

With increasing interest in the GRE data base as a source for talent flow study, it was becoming clear that a special data base for that purpose was called for. The cost of accessing the history files and writing special programs for each project was excessive. Furthermore, many changes had been made in the background questionnaire over the years. Major fields had been recoded several times and the wording of some items had been revised. These changes, especially the changes in major field codes, had led to costly programming errors. If we were to conduct further talent flow studies, it would be highly desirable to design a special data base for that purpose.

Before investing in further studies of talent flow and the design of a special data base, however, it was reasonable to ask how accurately the GRE background question on intended field of study could be taken as an indicator of actual field of study. A survey conducted by Nettles for the GRE Board contained information that enabled us to make estimates of subsequent enrollment patterns of GRE examinees.

From these survey data we were able to infer that only about 56% of the 1986-87 GRE population enrolled in graduate or professional school in the fall of 1987 (Grandy, 1990b). The enrollment rate was highest among those planning to enter the various areas of education (66%) and the physical sciences (65%) and somewhat lower in the combined social and behavioral sciences (50%). But among those who did enter graduate school, 82% were enrolled in a field of study identical to or nearly identical to the one they intended to study when they registered to take the GRE. Only 7% were found to be in areas that were judged to be unrelated or "remotely" related to the planned field of study. Overall, this finding seemed to suggest that the intended field of study question does have reasonably good validity as a predictor of actual field of study.

DATA BASE DESIGN

Years of Data Included

The data base begins with 1978 and ends with 1987, excluding 1979. In 1979, problems in the formatting of the major field questions resulted in erroneous coding of undergraduate major field and intended field of study. For purposes of a talent-flow data base, therefore, 1979 could not be included. Data prior to 1978 had not been retained by ETS, so the oldest data available came from 1978. In 1988, the background questionnaire was revised, and the list of major fields was expanded and modified extensively. Inclusion of data from 1988 onward will be proposed later.

Design Considerations

In designing the data base, we had four major considerations.

First, the cost of access should be as low as possible. Files should be as short as possible, and their layouts simple enough to facilitate easy analysis programming. If all or part of the data base could reside on floppy disks or Bernoulli cartridges, computer processing costs to the user would be eliminated.

Second, major fields of study would have to have consistent codes from year to year, and the code numbers should be ordered to correspond to some rational ordering of major fields. In the questionnaire itself, prior to 1988, there was no apparent connection between a code and the subject it represented.

Third, if one possible structure of the data base suited certain kinds of analyses and another structure suited very different kinds of analyses, we should consider devising two or more data base structures so as to maximize the usefulness of the information.

Fourth, the structure of the data base, as well as analyses generated from it, would require that some major fields be combined. Not everyone would want to analyze data for zoology majors separate from data for majors in other biological sciences. Some rationale had to be devised for combining fields in ways suited to the study of talent flow. The rationale we used is described below, under "Matrices of Broad Areas of Study."

With these considerations in mind, we developed three different structures, each suitable for a different type of analysis.

One structure is a simplified form of the GRE history files, where each record contains the data for one examinee, major fields are coded identically from year to year, and the record formats are the same for each year. The other two data base structures use a square matrix design. These are the simplest structures, in which rows represent intended graduate fields of study and columns represent undergraduate majors. Cells of the matrix contain aggregated statistics for the test takers specifying that particular combination of graduate/undergraduate major. The diagonal of the matrix contains the statistics for people remaining in the same field.

Each of these three data base structures is described in detail below.

The individual examinee data base. The individual examinee data base contains selected information from the GRE background questionnaire in addition to test scores and registration data. Appendix A gives the record layout for that data base. It contains the following information for every test taker in the history files:

- Sex
- Educational level
- Test year
- GRE verbal score
- GRE quantitative score
- GRE analytical score
- Background questions:
 - Whether and when GRE was taken previously
 - U.S. citizenship (yes or no)
 - Ethnic identity
 - Whether English is best language
 - Year of bachelor's degree
 - Undergraduate major
 - Degree objective
 - Intended graduate major
 - Undergraduate grade-point-average in major
 - Overall grade-point-average last 2 years of college
 - Hours worked for pay while in college
 - Hours of service work while in college
 - Area of most important honor or award
 - Father's formal education
 - Mother's formal education
 - Date of birth

Creating this data base required the gathering of documentation--often difficult to find and often containing serious errors or omissions. Minor changes in the background questionnaire over the 10-year period required meticulous attention to whether the documentation actually fit the data files. Some major field choices had been eliminated, for example, because few examinees selected those choices. When fields were eliminated, their code numbers were reassigned to new fields. Often it was only through the tedious reviewing of apparent trends in numbers or test scores that we uncovered errors arising from inadequate or unavailable documentation.

Because there had been changes in major field codes over the years, and because the numbers used for the codes showed little or no pattern that could be associated with the fields themselves, we redefined the codes completely for this data base. The new code numbers begin with 01 designating mathematics. The numbers increase through the physical sciences, engineering, biological sciences, applied biological sciences and health professions, administration, social sciences, applied social sciences, education, humanities, and arts. In total,

there are 100 major fields. Number 101 is assigned to "other" fields. The revised codes for all fields are listed in Appendix B.

The individual examinee data base contains no information whereby the examinee or attending institution can be identified. Currently this data base exists only on a tape that can be accessed through the ETS mainframe.

Matrices of detailed major fields. Once the individual-examinee data base was complete, it provided the input for large square matrices. These matrices are 102 rows by 102 columns. The rows correspond to intended graduate fields of study, and the columns correspond to undergraduate major field. Row 102 and column 102 contain marginals.

Each square matrix contains a single statistic, such as mean verbal score, for each combination of undergraduate and graduate field for a single year. Each file contains the matrices for all nine years, arranged sequentially from 1978 to 1987, excluding 1979. For example, if we wish to know how many Black examinees taking the GRE in 1978 had bachelor's degrees in mathematics, we would look at the column marginal of the first matrix, that is, column 1, row 102. We find the number 208 in that cell. How many of those 208 test takers planned to study mathematics at the graduate level? Column 1 row 1 shows 60. Only 60 of 208 Black math majors taking the GRE planned to continue in mathematics. What did the rest plan to study? Looking down the first column we see 11 people switching to applied mathematics, 7 to statistics, 2 to physics, 38 to computer science, and so forth, with a few planning to enter very different fields, such as occupational therapy and public administration. We could continue paging through the file to the last matrix to compare the same statistics for each year through 1987.

In constructing the detailed matrices, we did not include all records from the GRE files. We excluded examinees who omitted either of the questions on major field, though we retained those who marked "other." An omission of either question would make it impossible to study the flow of those examinees into or out of a field. We also included only U.S. citizens for reasons that should become evident.

In recent years, increasing numbers of foreign students have been taking the GRE and attending U.S. graduate schools. According to the GRE Data Summary Reports, 91.1% of the GRE population in 1978 were U.S. citizens (Wild, 1979). By 1987, this figure had dropped to 84.2% (Educational Testing Service, 1988). Foreign examinees, not surprisingly, tend to score lower than U.S. citizens on the verbal and analytical tests. In 1987, the verbal score average for all examinees was 487; for U.S. citizens, the average was 505. There was a similar difference in analytical score averages, with the total population averaging 528 and U.S. citizens averaging 541. Quantitative scores tend to be higher for foreign examinees because a large proportion of foreign students are in the sciences and engineering. The average quantitative score in 1987 for all test takers was 539; for U.S. citizens the average was 531.

Because foreign test takers score so differently from U.S. citizens, researchers studying GRE data are finding it increasingly necessary either to restrict analyses to U.S. citizens or to analyze U.S. citizens separately from foreign examinees. In the design of the talent flow data base matrices, therefore, we included only U.S. citizens for two reasons.

First, talent flow questions generally pertain to U.S. education, the U.S. economy, and the interests and values of U.S. students. Foreign examinees may exhibit very different patterns of talent flow depending on their nation's priorities, cultural differences, and other factors. Although statistics about foreign examinees may be interesting, they would not be central to most studies of talent flow.

The second reason for excluding foreign examinees was based on data processing, storage, and maintenance demands. Because of the matrix structure of the data base, inclusion of foreign examinees would triple the number of files that would have to be created and managed.¹ Already, with our focus just on U.S. citizens, a considerable number of files were required, and more may be added in the next few years. If, at some future time, we have reason to create a matrices for foreign examinees, we can easily create them from the individual examinee data base.

At the present time, the detailed matrices are in two locations. One copy is on tape accessible through the ETS mainframe, and one is hard copy with labels for easy reading. The matrices on tape omit the marginal rows and columns and are therefore 101 rows by 101 columns.

Although the hard copy is easy to read, it constitutes many volumes and cannot be easily duplicated for distribution. Appendix C shows an example of the hard copy: the percentage of 1987 female examinees planning to earn a doctorate. Appendix D lists the files currently existing on tape.

Matrices of broad areas of study. The "small" matrices are the easiest to use and provide summary statistics for broad fields of study. For example, we might be interested in combining areas of biology instead of analyzing zoology, genetics, and other specialties separately, as we must do if we wish to obtain summaries from the detailed matrices. Thus we combined 11 fields into a single category labeled biological sciences.

There are many ways we might have combined major fields, depending on the purpose of the analysis. Some investigators may, for example, include history within the humanities. Others may include it in the social sciences. Still others may wish to keep it separate so they can compare it with other areas of the humanities or social sciences. Students of the humanities may wish to exclude the arts, particularly the fine arts and design, from the broad area of arts and humanities. Similarly, some scientists would include metallurgy in the physical sciences but others would place it under engineering. The interdisciplinary fields are especially hard to classify. Hospital administration is both administrative (suitable to include with business and public administration) and appropriate for inclusion with health services.

¹The background questionnaire recognizes three categories: U.S. citizen, resident alien, and neither. An analysis of foreign examinees would probably distinguish between resident aliens, most of whom would have been educated in the United States, and the third category, most of whom would have received their education abroad. Future studies of talent flow among foreign examinees can create the necessary matrices for these two groups from the individual examinee data base.

For the purposes of studying talent flow, we are concerned with change in field of study--how many people change, and whether the changes are to slightly different fields or greatly different fields. Just what defines a "different" field of study, however, is subject to interpretation.

Consider some of the common classifications of disciplines. "Physical sciences," for example, often includes astronomy, physics, and chemistry. A student who earns a B.S. in chemistry and then enters graduate school in astronomy is an extreme rarity, however, because the chemistry curriculum does not prepare someone for graduate study in astronomy. There is very little course overlap, and the technical contents of the two fields are quite different. From the point of view of curriculum content, therefore, a change from chemistry to astronomy would be a significant change.

Viewed from another point, switching from chemistry to astronomy is only a trivial change because the person does not leave the physical sciences. This latter view might be held by someone concerned with talent flow into and out of the sciences. There is no loss of talent from the sciences if someone makes a lateral shift to a different physical science.

Suppose a person changed from mathematics to education. In terms of curriculum content, this is a considerable change. The student's graduate education courses will be quite different from his or her advanced undergraduate math courses. But the change from math to education is a frequent change because many math students wish to teach in high school. From that perspective, their undergraduate curriculum prepares them appropriately for their graduate work. They are not really changing to a different field--they are not abandoning mathematics--but are merely progressing along a natural course to become math teachers.

What if a student changes in the reverse direction, from education to mathematics? Such a change is far less frequent than the change from math to education. Furthermore, higher level mathematics (advanced calculus, for example) is not part of the undergraduate education curriculum. So if education majors intend to become mathematicians, they must take even more advanced courses than their fellow students who are planning to teach math. From any perspective it seems likely that the transition from education to mathematics would be regarded as a large change. Furthermore, it is greater than the change in the reverse direction. In some instances, therefore, a change from a to b is not the same magnitude of change as a change from b to a.

For the purposes of the talent flow data base, we grouped major fields into the following 10 categories:

- Arts/Humanities
- Physical Sciences/Mathematics
- Engineering
- Biological Sciences
- Applied Biology/Environmental Sciences
- Social Sciences
- Applied Social Sciences
- Health Sciences/Services
- Education
- Business/Public Administration

Appendix E lists the specific fields of study that were grouped into each of these broad areas of study. Although the classification scheme used here will not be satisfactory to everyone, it provides a useful "first shot" at studying talent flow. When we receive an inquiry about science students planning to earn a master's degree in education, or about the brain drain from the physical sciences into other fields, or about how well the humanities are doing, these tables can provide a convenient source for a simplified answer. When the question involves a more detailed look at disciplines, in-depth analyses using the detailed matrices will be appropriate.

The small matrices are also simplified in that they exclude examinees who marked "other" or "undecided" major field categories because those responses could not be grouped into broad fields. Thus the total number of records used to create the smaller matrices is somewhat smaller than the total number in the detailed matrices.

Like the matrices of detailed fields, the matrices of broad areas of study exist in two forms: hard copy in a binder, and tapes accessible through the ETS mainframe. The matrices are small enough to be copied onto floppy disks or Bernoulli cartridges for analysis on a personal computer. Appendix D lists the file names and formats of all matrices of broad areas of study.

PART II. USE OF THE DATA BASE

ANALYSIS AND PRESENTATION OF DATA

After creating such a large number of talent flow data bases, it became clear that the possibilities for analysis were limited only by time and the capacity to ask questions. Up to 70% of the resources for the project went into development of the data base. The hard-copy output made for fascinating reading in itself. But reporting, in some organized fashion, the "major findings" in the data base could be a lifetime task.

Many kinds of questions could be answered. We could discuss each and every field of study--who enters it, who leaves it, and how they have changed over the last decade. Readers could search one of the many volumes of that encyclopedia to learn about the field of their choice. That goal seemed unrealistic. Furthermore, readers are interested in patterns. They are interested in causal explanations for those patterns, in terms of student background, economic and political conditions at the time of career choice, and relations to other data bases. Analyses at this level of detail and sophistication were unrealistic as "first cracks" at this new data base.

What was a more realistic undertaking for this project was to identify and discuss trends in the marginals of the small matrices (numbers entering and leaving broad fields of study) and some simple analyses of patterns in talent flow into and out of broad fields of study and selected specific fields. Perhaps most important was to find informative ways to present those patterns. Matrices that are 102 rows by 102 columns by 9 years are readable, both visually and by computer, but patterns in data do not simply "emerge."

As a start in data presentation, we produced five sets of tables:

Table 1: Trends for all U.S. citizens taking the GRE

Tables 2.1 to 2.10: Trends for all U.S. citizens intending to major in each broad field of graduate study

Tables 3.1 to 3.10: Trends for all U.S. citizens with an undergraduate degree in each broad field of study

Tables 4.1 to 4.10: Trends for all U.S. citizens with the same undergraduate major and intended graduate major

Tables 5.1 to 5.8: Relationships of selected background variables with the decision to change from each of 10 broad fields of study to another field

We found that in addition to the trend tables, the most effective way to identify patterns was to graph the data in many different ways and then to present the most informative graphs. The shells of those graphs can be retained for the display of other combinations of data at a later time.

Much of this second phase of the project, therefore, involved the trial-and-error design of informative visual presentations, and then the preparation of verbal summaries of those charts.

EXAMPLE 1: TRENDS IN THE SELECTION OF GRADUATE FIELD OF STUDY

GRE Population Trends

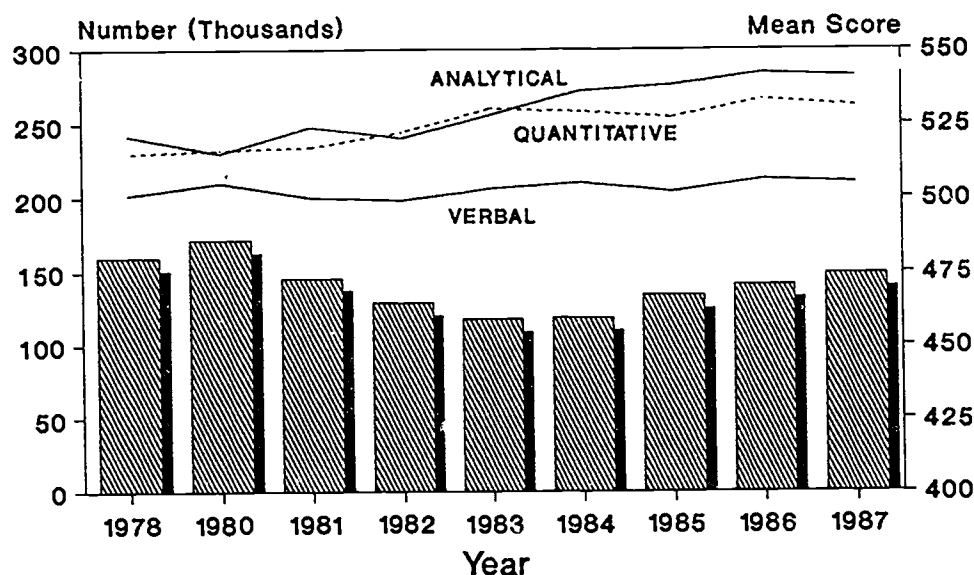
The total number of U.S. citizens taking the GRE and specifying fields of study increased from just under 160,000 in 1978 to over 170,000 in 1980 and then declined sharply to less than 120,000 in 1983. Gradually, it rose again to about 150,000 in 1987. Over that same period of time, the mean GRE verbal score wavered, showing no overall gain or loss between 1980 and 1987. The quantitative score average increased until 1983, dropped a few points in the next two years, and rose again to a peak of 533 in 1986. The analytical score average wavered considerably between 1978 and 1982 and then rose steadily. Between 1980 and 1986, the mean analytical score increased 27 points. It is important to note, with respect to analytical scores, that the General Test was revised several times during this period, and trends in scores are probably not meaningful. Comparisons among groups of examinees within the same year are, of course, appropriate.

Figures are shown below and in Table 1:

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Number | 159,907 | 171,780 | 145,944 | 128,740 | 117,777 | 118,727 | 133,636 | 141,179 | 148,841 |
| Verbal | 501 | 505 | 500 | 499 | 503 | 505 | 502 | 506 | 505 |
| Quantitative | 515 | 516 | 517 | 522 | 530 | 529 | 527 | 533 | 531 |
| Analytical | 521 | 515 | 524 | 520 | 528 | 536 | 538 | 542 | 541 |

The following graph shows more vividly that the trends in test scores (line graphs, right scale) did not follow the decline and rise in examinee volume (bar graph, left scale).

Number of Examinees and GRE Scores of U.S. Citizens Who Specified Graduate and Undergraduate Fields of Study



Many educators believe that there is an inverse relationship between volume and ability: when the number of people planning to enter a field changes, there will be a corresponding change in population characteristics, such as test scores. As a field increases in popularity, for example, we might expect it to attract a less select (that is, lower scoring) population. The assumption is that as demand increases--whether for scientists, teachers, college graduates, or some other pool of talent--an increasing volume of people will begin to fill that pool, and those people will be less qualified than the smaller number of people who previously filled the pool.

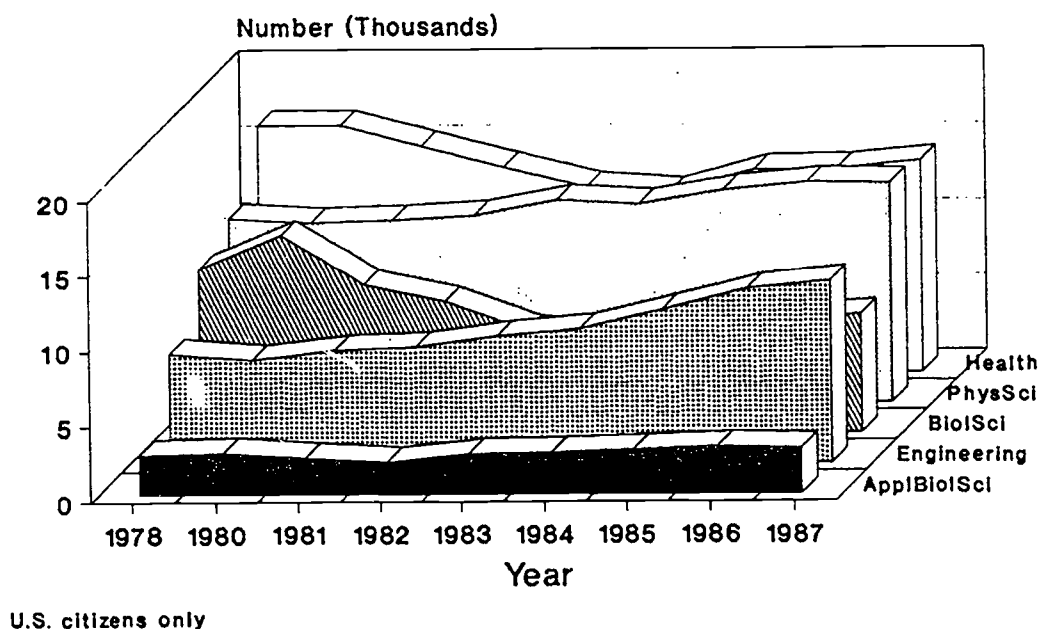
Adelman (1985) formulated this conventional wisdom hypothesis: "The greater the number of test takers, the lower the scores; the lesser the number of test takers, the higher the scores." He went on to test the hypothesis with trends over nearly two decades in the volumes and scores from nine different tests: the verbal and quantitative sections of the GRE General Tests, the GRE English, History, Biology, Mathematics, and Sociology tests; the Law School Admission Test (LSAT); and the Graduate Management Admission Test (GMAT). Only two of these tests followed conventional wisdom: the GRE quantitative section and the GRE Mathematics Subject Test. These results--two tests out of nine--could hardly be said to support conventional wisdom.

It seems likely that the conventional wisdom hypothesis, rather than being wrong, is just one aspect of a very complex process. We know, for example, that attraction to specific professions changes over time, and the corresponding volume of examinees planning graduate study in those professions changes accordingly. Computer science, for example, showed a considerable gain in popularity in the early 1980s, but geography nearly dropped out of sight

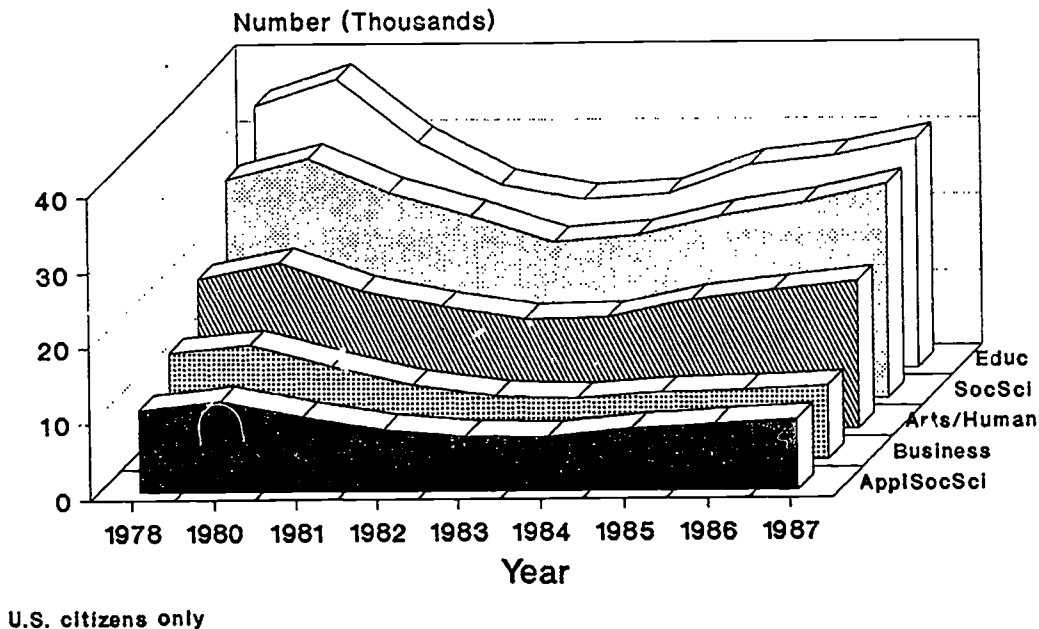
during that time. As the population shifts in its interests, we would expect corresponding shifts in aptitudes and experiences.

To see whether a decline-and-rise pattern in examinee volume occurred in all fields of study, and to see whether test scores followed a related pattern, we compared the volumes and test scores of examinees planning to enter each of 10 ten broad fields of study. The next two graphs show the overall patterns of examinee volume. Note that the vertical axis is scaled differently on each graph.

Intended Graduate Fields of Study Physical Sciences/Math, Engineering, Biological and Health Sciences



Intended Graduate Fields of Study Social Sciences, Arts/Humanities, Education, and Business



From these graphs we can make three very striking observations:

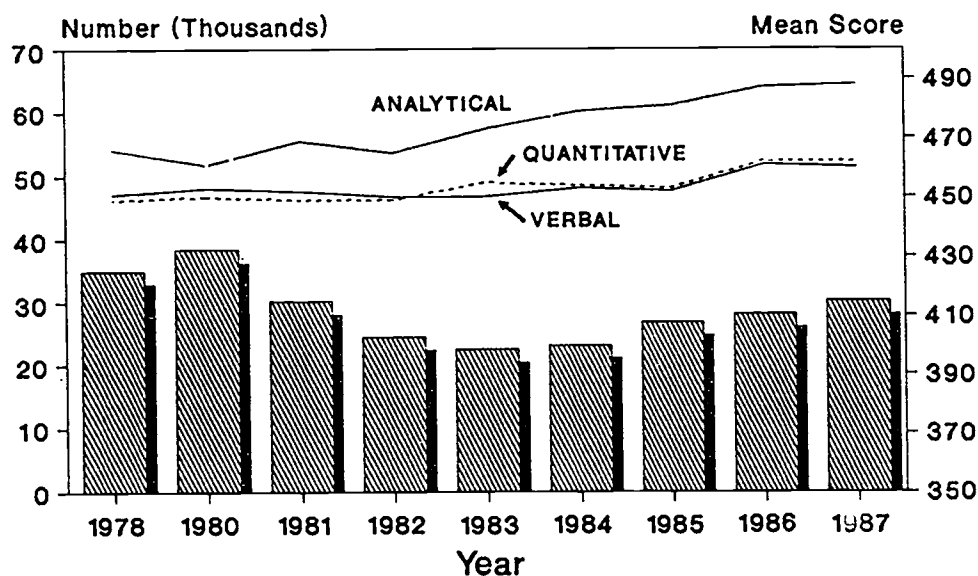
1. Most fields, but not all, showed a decline-and-rise trend. For some fields the trend was only slight; for others, it was quite dramatic.
2. Some fields showed very different trends. Engineering, physical sciences, and mathematics showed steady growth.
3. Education and social sciences had the largest volumes, and, consequently, their numbers provided the greatest weights in the population statistics. Even the third largest area, humanities and arts, showed a similar trend. Hence, the fields attracting the greatest numbers of examinees--education, social sciences, and humanities--may be viewed as having determined the decline-and-rise trend in the population.

The observation that trends in examinee volume did vary across fields leads us to examine each of these broad fields of study more closely and, in particular, to see if trends in test scores seem to relate in any way to trends in volume.

Trends within the Ten Broad Fields of Study

Education. The largest field of study, attracting one fifth of the examinee population, is education. The following graph shows the decline-and-rise trend in the volume of examinees planning to study education at the graduate level. GRE score trends are also shown.

Number of Examinees and GRE Scores of
U.S. Citizens Planning to Study
Education

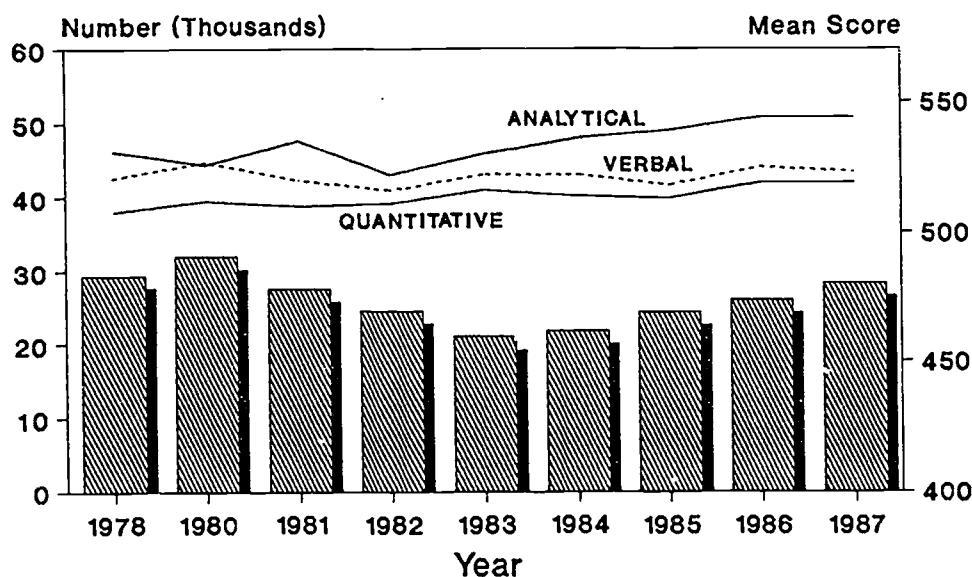


In the three years from 1980 to 1983, the number of examinees planning to study education (including teacher education, administration, educational psychology, and guidance/counseling) dropped 41%--from 38,425 to 22,568. The decline of some 16,000 people from education is even more dramatic than the 31% decline in GRE candidate volume during those three years. After 1983, the number entering education slowly increased, but it never reached the peak shown in 1980.

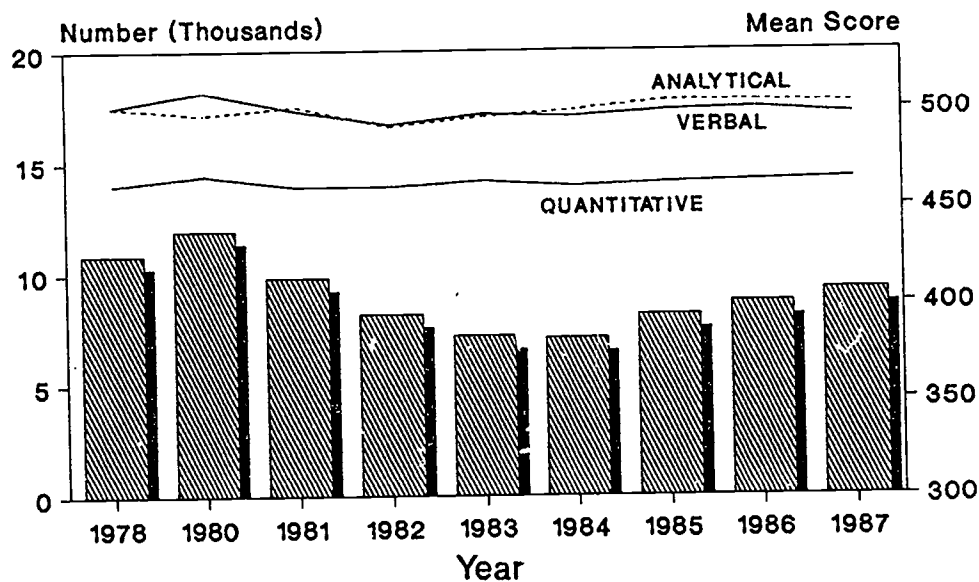
Although volume showed a decline-and-rise pattern, verbal scores showed a small but steady improvement, from a mean of 451 in 1978 to a mean of 460 in 1987. Quantitative scores paralleled verbal scores. Contrary to conventional wisdom, there is no evidence whatever that the dramatic changes in the number planning to study education was associated with any change in academic ability.

Social sciences. The area attracting the second largest number of examinees has been the social sciences, which accounted for 19% of the examinee volume in 1987. The graphs for social sciences and applied social science follow the same trends in volume as the total GRE population. Note that the applied social sciences draw a much smaller volume than the "pure" social sciences (the ordinates of the graphs are different).

Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Social Sciences



Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Applied Social Sciences

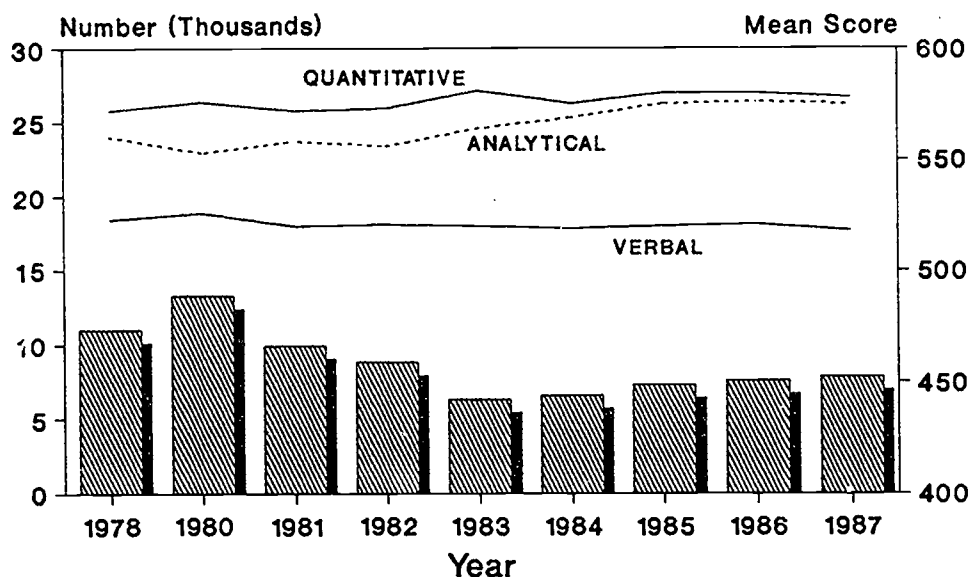


During the three years following 1980, the number of people planning to study social sciences decreased by more than 10,000--a decline of 32%. In the applied social sciences, the decline continued through 1984, so that in the four years--from 1980 to 1984--there was a 40% decrease in examinee volume.

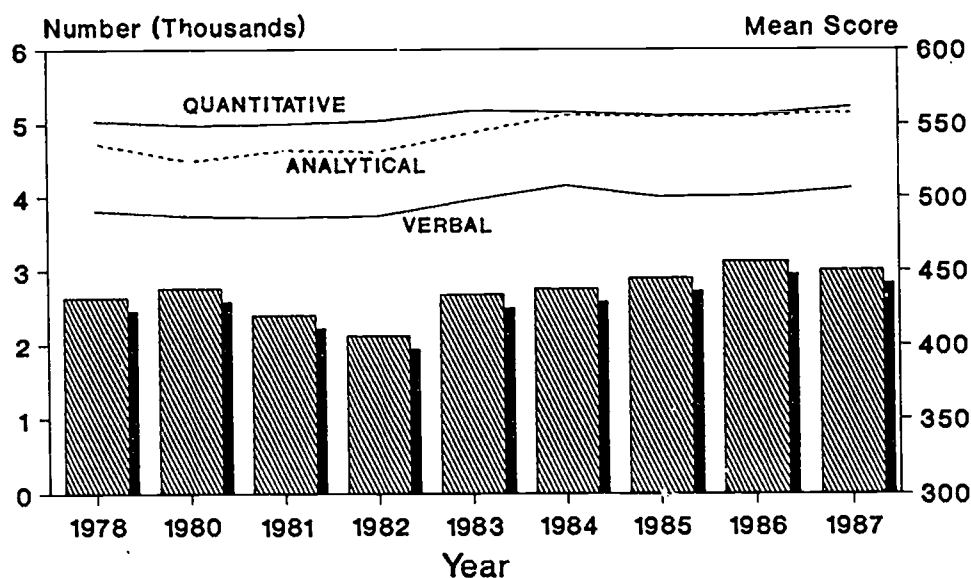
In direct contradiction of the conventional wisdom hypothesis, verbal scores actually peaked in 1980, at the same time volume peaked, especially for examinees entering applied social sciences. Also note that the score means were consistently lower, by about 25 points in verbal, 55 points in quantitative, and 40 points in analytical, for examinees entering the applied social science fields. A hypothesis that students choose their graduate field of study by an evaluation of their own verbal and mathematical skills is explored later in this report.

Biological sciences. The biological sciences, applied biological sciences, and health sciences and services showed quite different trends.

Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Biological Sciences



Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Applied Biological Sciences

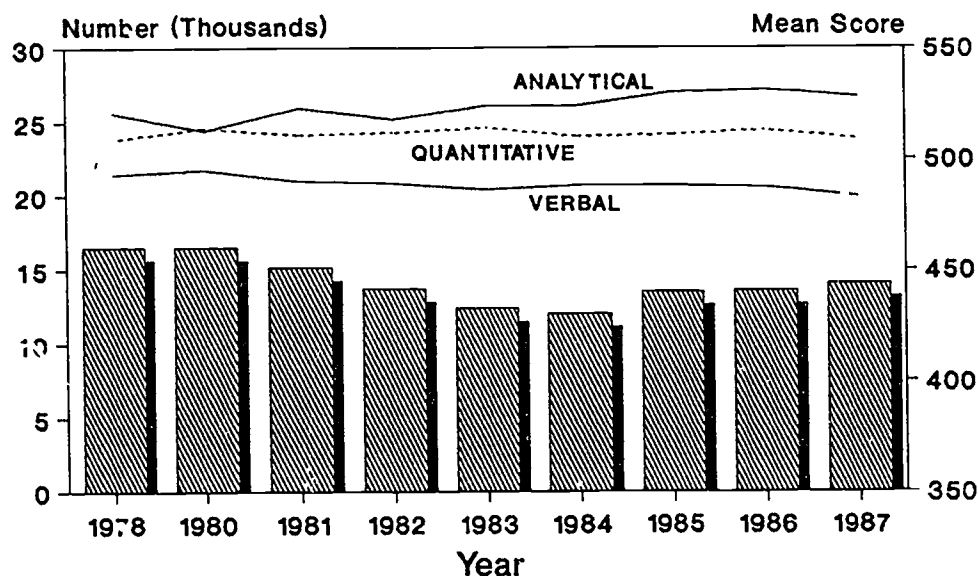


In the "pure" biological sciences, there was a pronounced peak in 1980, just as there was in education, though in relative numbers, only a small percentage of examinees planned to study biological sciences. As in the overall GRE population, biological sciences declined in volume after 1980 with only a gradual rise after 1984.

The applied biological sciences (primarily agriculture and environmental sciences) showed only a minor peak in 1980, and numbers increased after 1982. The following graph, compared with the previous one, suggests a drift in preferences from biological sciences in the earlier years to applied biological sciences in the later years. Note that the scales of all three graphs are different; biological sciences has always attracted from two to four times as many students as the applied biological sciences, and the health sciences have attracted more students the biological sciences.

Health sciences and services, the largest and most stable of the three life science categories, showed only a small decline through 1984, followed by a slight increase in volume.

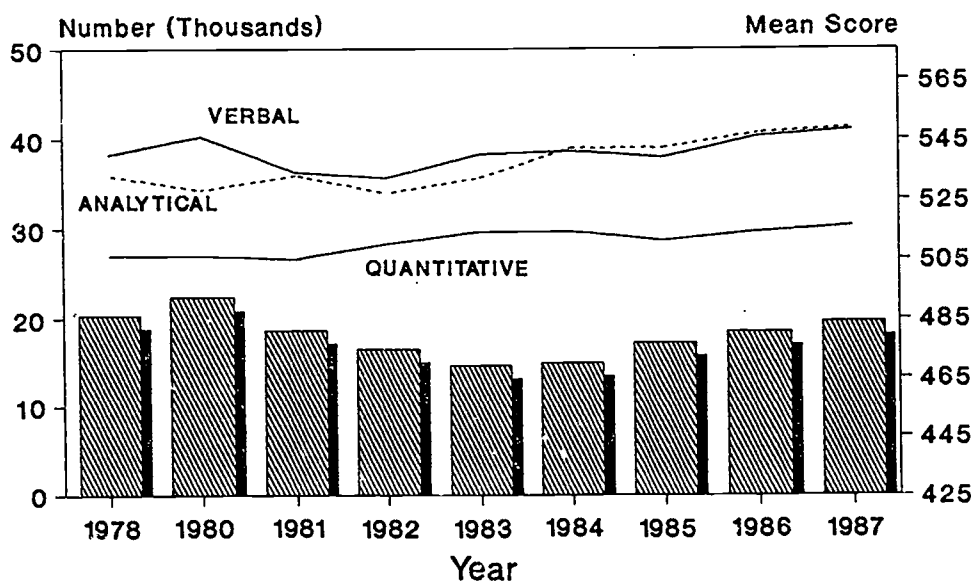
Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Health Sciences and Services



All three of the life science areas showed some type of decline and rise in volume, but no area quite paralleled the trend in overall examinee volume. As for test scores, the means for both the verbal and quantitative sections rose very slightly for the applied biological sciences and declined very slightly for health sciences and services, but the score changes were so small that they probably do not indicate any real talent flow from one field to the other.

Arts and humanities. Trends in arts and humanities were very similar to population trends.

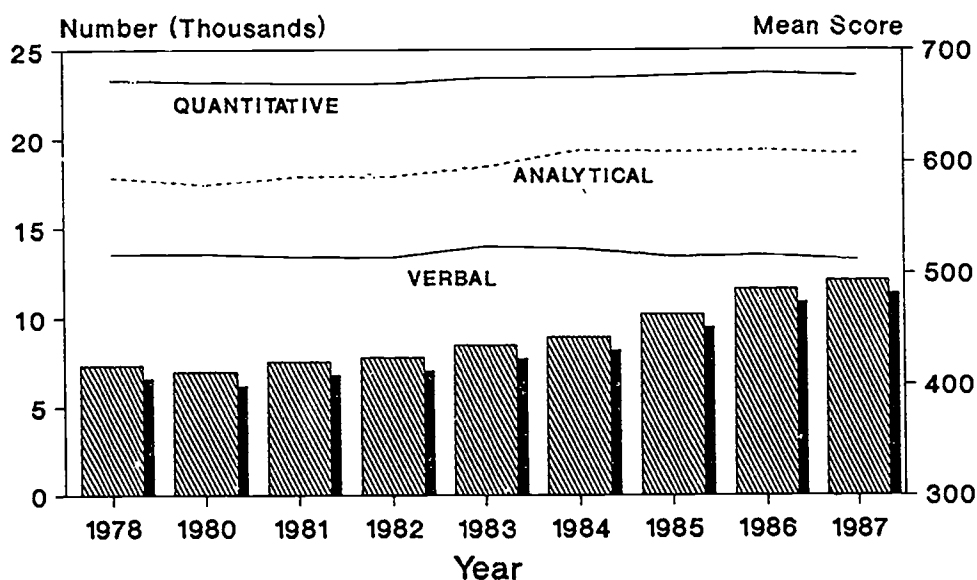
Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Arts and Humanities



The number of examinees planning to study arts and humanities followed the same decline and rise seen in education and the social sciences. The test scores, however, showed more pronounced patterns than we saw in other fields of study. Verbal scores peaked in 1980, when the candidate volume was largest. Means then declined in 1981 and 1982. Over the next five years, however, verbal scores rose a full 16 points. Quantitative score averages rose steadily over the entire 10-year period, with a total increase of 10 points. The score increases occurred for both males and females. In addition, the percentage planning to earn a doctorate increased during this time. It appears as if the humanities have been attracting more able students having high aspirations since 1982.

Engineering and physical sciences. Among all of the broad fields of study, engineering showed the largest growth.

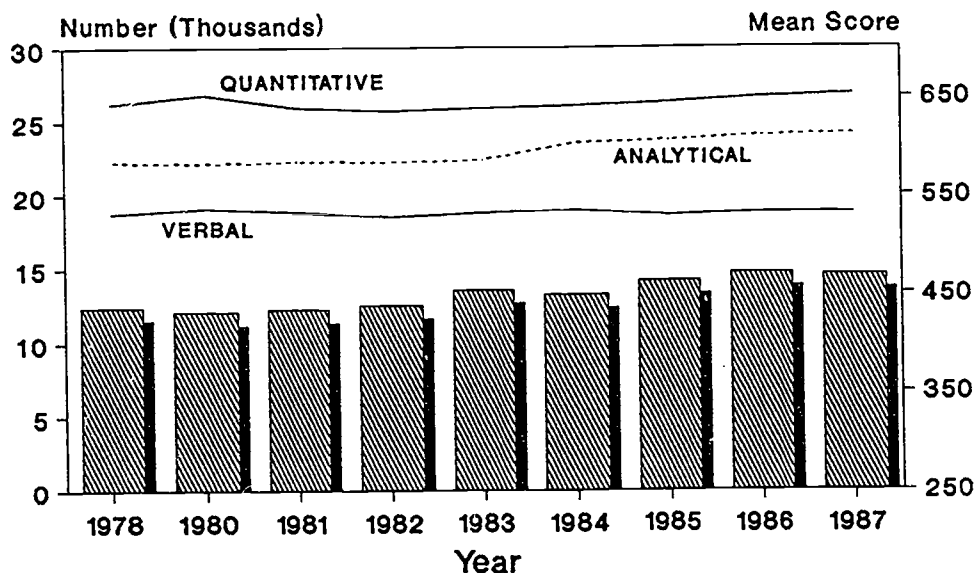
Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Engineering



Between 1978 and 1987, the number planning to study engineering at the graduate level increased from just over 7,000 to more than 12,000--an increase from 4.6% to 8.1% of the examinee population. The number of women planning to study engineering doubled over the 10-year period, and the percentage who were Black rose from 2.76 to 3.98. It is perhaps interesting to note that among females planning to study engineering in 1987, 7.6% were Black. There was no consistent change in the test score means over that period.

Math and physical sciences also showed a steady growth of 18% during the 10-year period.

Numbers and GRE Scores of U.S. Citizens Planning to Study Physical Sciences or Mathematics

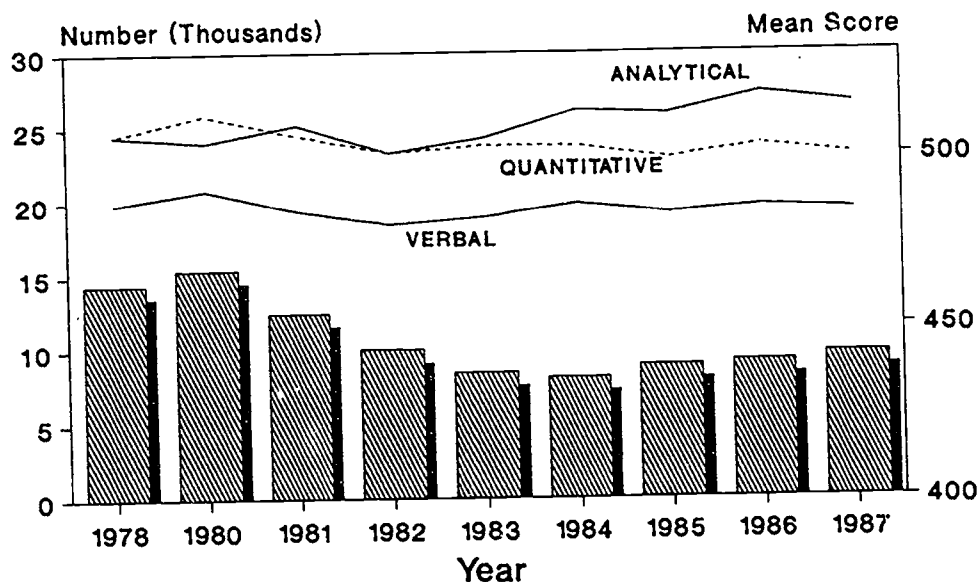


In the five years after 1982, quantitative score averages rose 16 points. This may suggest that within the physical sciences there was some growth after the early eighties both in both the quantity and quality of examinees planning graduate study.

Business, commerce, and law. Students who plan to pursue advanced study in fields such as law, business, commerce, and other forms of administration generally apply to professional schools requiring tests other than the GRE. Some of these students--between 8,000 and 15,000 a year--also take the GRE. We do not know how well the sample who take the GRE represent applicants to law and business schools, so we must be cautious in drawing inferences about this group from our analysis.

Our data show a peak in candidate volume in 1980, just as there was for the GRE population as a whole, followed by a sharp decline through 1984, and then a very slight increase through 1987.

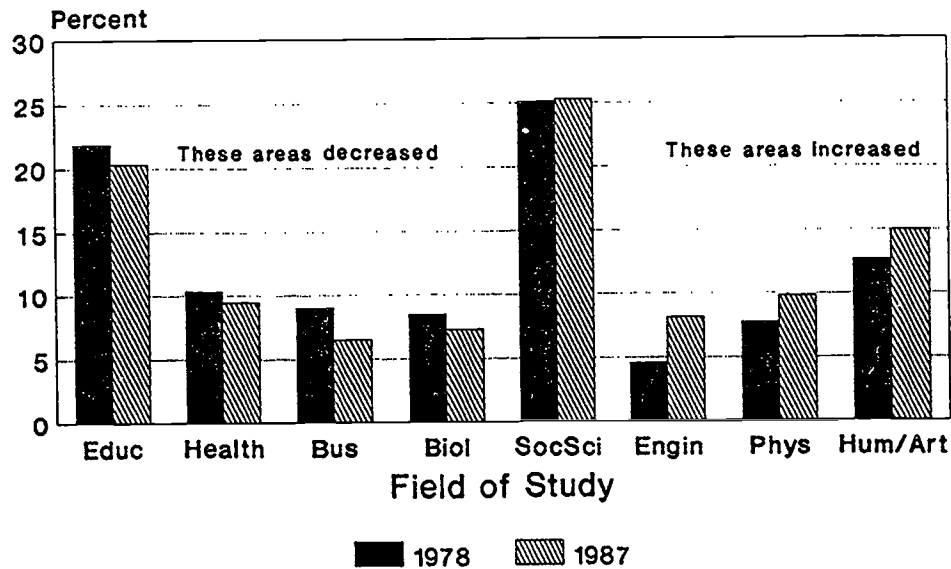
Numbers of Examinees and GRE Scores of U.S. Citizens Planning to Study Business, Commerce, or Public Admin.



The data show that GRE scores, both verbal and quantitative, peaked in 1980, along with the numbers of examinees. Scores dropped slightly in 1982 and changed little thereafter. If this sample adequately represents candidates who apply to law and business schools, at least in their numbers, we see no sign of a brain drain into business and law, as the academic world often fears.

Proportional distribution of the broad fields of study. The data presented so far on volumes of examinees have been based on absolute numbers. Because the total population size varied over the 10-year period, it is difficult to see whether any fields grew or diminished as a proportion of the GRE population. In the following graph, the 10 fields have been reduced to 8, with applied social sciences combined with social sciences, and with applied biological sciences being combined with social sciences. The graph shows the percentages of the GRE population planning graduate study in each area for 1978 (solid bar) and 1987 (shaded bar). The percentage choosing social science fields did not change over the 10-year period, but remained at about 25%. The proportions choosing education, health sciences and services, business, and biological sciences all declined. The proportions choosing engineering, physical sciences and mathematics, and arts and humanities all increased. The selection of engineering, in particular, showed a large proportional increase, from 4.6% to 8.1%.

Change in the Percentages of the GRE Population Planning Graduate Study in Each of Eight Areas: 1978 to 1987



U. S. citizens only

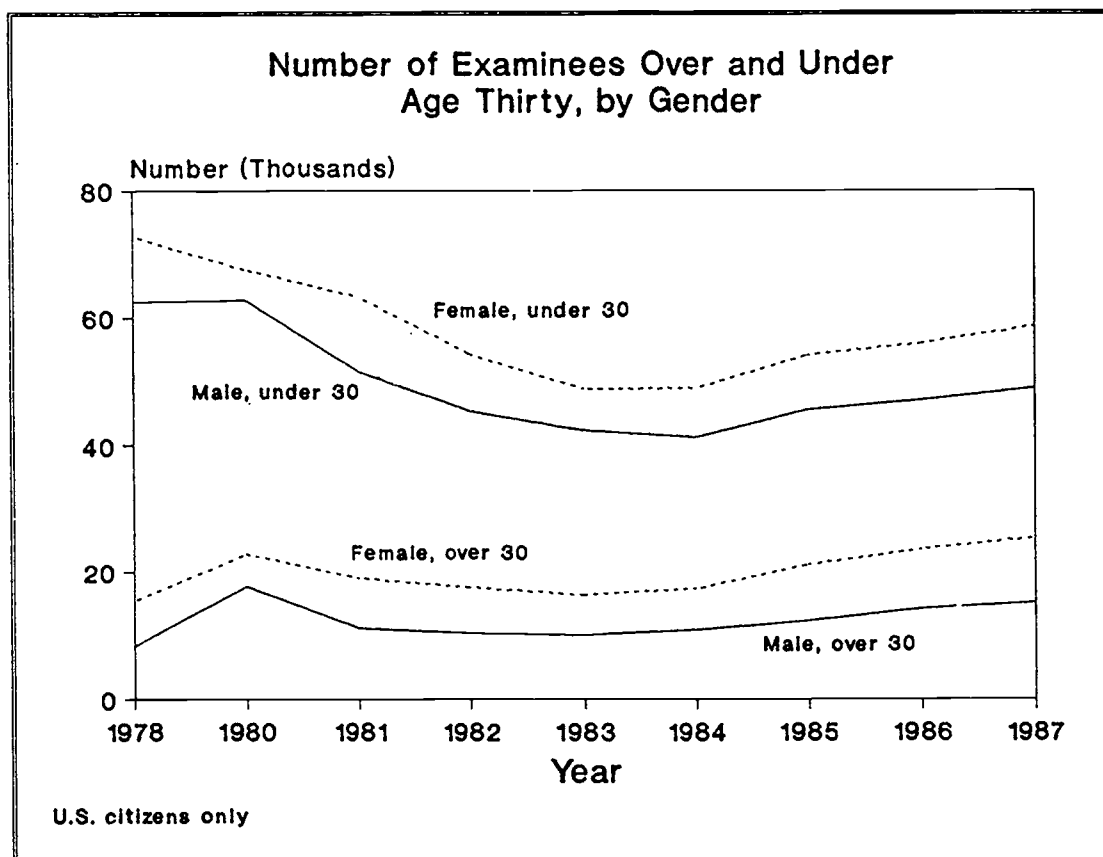
Age, Gender, and Ethnic Composition

Age. Among the matrices for the talent flow data base are mean ages, by gender and by degree goal, and numbers of examinees over age 30, by gender and by degree goal.

In the GRE population as a whole, regardless of gender or intended field of study, the percentage of older examinees increased between 1978 and 1987. Among those who specified graduate fields of study, the percent over age 30 rose from 15.1% in 1978 to 27.7% in 1987. The greatest increase, however, was between 1978 and 1980. After 1980, the proportion of older examinees dropped slightly and then rose very slowly over the remaining seven years.

Female examinees, on the average, were older than males. The mean age for males in 1987 was 26.4, and for females the mean was 27.6. The real difference shows up in the percentage over age 30. Over the 10-year period, the percentage of women over 30 increased from 17.7% to 30.6%, and the percentage of men over 30 rose from 11.8% to 22.3%.

If we look at the number, rather than the percentage, over age 30, we see that the numbers under 30 declined and the numbers over thirty actually remained quite constant, at least after 1980.

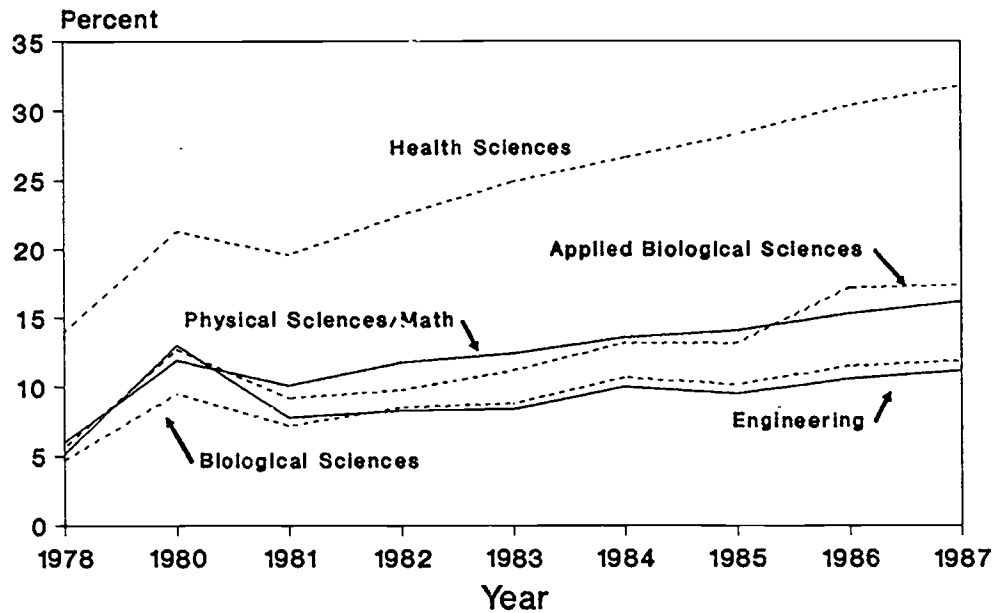


The graph also shows that the peak in examinee volume occurring in 1980 was primarily due to an increase in older students. That increase, especially among older males, reversed by 1981. We might conjecture that the peak in 1980 was associated with the rather severe recession that occurred at that time, and that the recession may have affected older males more than others. We see from the same graph that after 1984, there was an increase in numbers of males and females, younger and older students.

Some fields of study more than others attract older students. In certain fields, such as education, people often work a while before returning for an advanced degree, or they continue their education one or two courses at a time while they work. The following two graphs show trends in the percentages of examinees over age 30, by intended field of study. Note that the scales of the two graphs are different.

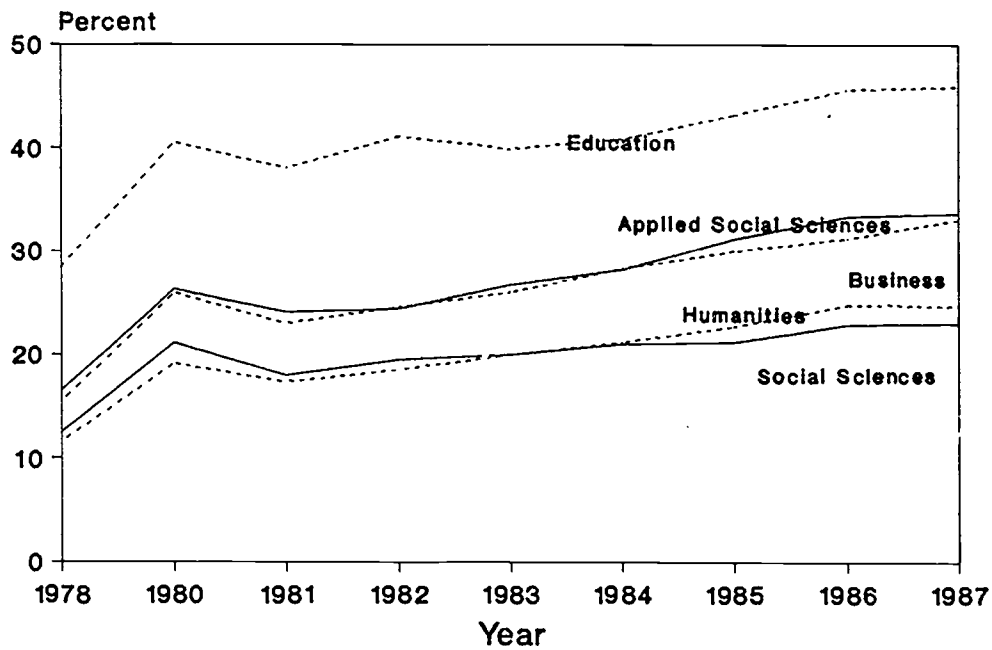
Percentage of Examinees Planning to Enter Each Field Who Were Over Thirty:

Engineering, Physical and Life Sciences



U.S. citizens only

Social Sciences, Arts/Humanities, Education, and Business



U.S. citizens only

It is clear from both of these graphs that the greatest proportion of older examinees were in service professions--the health sciences and services and education. Within any given area, the most applied fields appeared to attract the older students. More older examinees entered applied social sciences than "pure" social sciences, and, among the life sciences, biological sciences attracted the fewest older examinees, applied biological sciences attracted about 50% more, and the health sciences and services attracted about three times the percentage of older students as did "pure" biological sciences.

The fact that some fields attracted more older students than did other fields has implications for talent flow. We would expect more older students than younger students to be changing careers, since, by necessity, younger students include most of the population who have not yet worked. As increasing numbers of older people return to college or graduate school for a career change, we can expect to see more flow of talent from one profession to another. Talent flow as a result of career change would have quite different effects from talent flow during student years. After people have had work experiences in one area, they have specialized knowledge that gives them a unique perspective on their new field. This unique perspective and knowledge base has the power to change the very nature of the second career.

In 1987, 100 GRE takers over age 30 had undergraduate majors in engineering and planned to do graduate work in the social sciences or applied social sciences. These examinees, if they pursued their goals, would bring to the social sciences a very different body of experiences than would the bulk of other social science majors. Because they were over 30, they were likely to have had careers--probably as engineers--and for whatever reasons, they had chosen a complete change of field.

Consider another example--the graduate field of education. Older people entering education may be leaving industry in order to teach, they may be homemakers planning to enter the work force, or they may be leaving teaching for administration. In any case, their movement has a different effect on their careers and on the profession than if they had never been employed or had never been homemakers.

A 40-year-old scientist leaving a chemistry laboratory to teach high school has considerably more to offer students to prepare them for an occupation in the sciences and in industry than does a 23-year-old graduate who has studied education but has had no work experience in chemistry. On the other hand, the laboratory is losing a productive (or unproductive) worker. A person leaving teaching for administration brings to that position much first-hand experience in the problems of teachers, while his or her students may be losing an effective (or ineffective) teacher. Someone who has been a full-time homemaker and who now plans to teach has had the unique experiences of rearing children--experiences quite different from those of the student who has learned about children exclusively from education and psychology classes. Although she (or he) may bring valuable experience from the home, the home may also suffer by losing much of the valued parent's time. In all cases, there will be a pronounced shift in the balance of talents among occupations when people transfer their efforts from one line of endeavor to another.

Not all older students, of course, are changing careers. Some are advancing their careers. Some started college when they were older and are continuing straight through graduate school. All of these examinees are worthy of study, and with additional information from the data base,

such as years since they earned a bachelor's degree, we can research the characteristics of people who are structuring their education and their careers in many different ways.

Gender. Among all U.S. citizens taking the GRE General Test and specifying fields of study, the percentage who were female increased very little over the 10-year period studied. In 1978 the figure was 55.1%. It rose only to 56.5% by 1987. This is surprising because the number of women awarded doctorates increased substantially over that decade. Between 1978 and 1987, the percentage of U.S. citizens awarded doctorates who were female rose from 29.0% to 40.9% (National Research Council, annually from 1978 to 1987).

One explanation could be that GRE takers are not representative of doctoral candidates. From our talent flow data base on examinees planning to earn a doctorate, we find the percentage of females increasing from 46.4% to 50.3%. Although this is a slightly larger increase than we found among all GRE takers, it by no means resembles the statistics for doctoral recipients.

From the GRE data base alone, of course, we cannot explain this discrepancy. A curious speculation would be that more women who intend to earn a doctorate are now successfully completing their work.

An alternative explanation could be that the lag time between taking the GRE and acquiring the doctorate is too long to allow the two data bases to be compared with much precision. If the women who earned a doctorate in 1987 took the GRE in 1980, the percentage earning the doctorate and the percentage taking the GRE and intending to earn a doctorate differ by only 2 percentage points! This finding not only supports the alternative explanation for the apparent discrepancy between the two data bases, but it suggests remarkable predictive validity for the GRE background question on degree aspirations.

What these observations also suggest, however, is that in the near future, based on GRE predictions, the percentage of women earning doctorates will not increase noticeably. This prediction is believable because the percentage of doctorates awarded to women did level off after 1986. Prior to 1986, the numbers increased by 1 or more percentage points each year. From 1986 to 1988, the percentage of doctorates awarded to women increased only from 40.9% to 41.0%--just one-tenth of 1 percentage point in a period of two years.

For whatever the small increases in female test takers means, it is worthwhile to examine the numbers of women planning to undertake graduate work in each area. Regardless of that figure's predictive validity, it indicates which fields are being selected by more women and may indicate how well the various professions are encouraging female participation.

In the GRE files, fields such as the applied social sciences and education, which have always been predominantly female, did not show noticeable increases in female examinees. In both of these fields, women constituted about 75% of the population, and this figure has remained fairly constant over 10 years studied. In health sciences and services, however, the numbers grew slightly from an already high 76% in 1978 to 80% in 1987. This field, however, includes medicine as well as nursing and numerous other allied health professions. Women have been traditionally underrepresented in some of these fields.

To better understand whether there was a redistribution of female test takers among the health sciences, we have to examine trends in each of the constituent fields. A brief look at the detailed matrices shows that between 1978 and 1987, the "traditionally female" graduate fields of home economics and nursing showed declines in numbers, while the "traditionally male" fields of medicine and veterinary medicine showed growth in female representation. The figures were as follows:

| <u>Graduate Field</u> | <u>Number of Female Test Takers</u> | |
|---------------------------|---|-------------|
| | <u>1978</u> | <u>1987</u> |
| Home economics | 681 | 455 |
| Nursing | 5818 | 5673 |
| Medicine | 149 | 539 |
| Veterinary medicine | 560 | 1073 |

This redistribution in the selection of specific health sciences and services by women suggests a line for future research using the talent flow data base to explore the changing academic and background characteristics of women entering and leaving these fields.

In the applied biological sciences there was an increase in female representation from 30% to 37%. In the "pure" biological sciences more women were represented, though their numbers increased only very slightly. Over the 10-year period, the percentage of females rose from 46% to 50%. The arts and humanities also remained about equally represented by males and females.

The physical sciences, mathematics, and engineering--fields that have always attracted more males--showed very little increase in female representation. Over the 10-year period, the number of women planning to study physical sciences or math rose only from 27% to 29%; in engineering, the numbers rose from 14% to 18%.

Ethnic composition. The percentage of GRE examinees who specified fields of study and were Black decreased from 6.4% to 5.3%. Similar numbers hold for those planning to earn doctorates. The percentage of doctorates conferred to Black students also declined by about 20%.

The fields that attract Black examinees changed very slowly. Physical sciences, math, and engineering showed a gradual increase over the 10-year period, but the total increase was only a percentage point. The percentage of Blacks planning to study social sciences declined slightly, from 7.1% to 5.1%. The applied social sciences and education also declined in popularity by about the same amount.

The percentage of Asian American examinees, while still quite small, increased in essentially all fields. In 1987, 9.1% of the examinees planning to study engineering were Asian American. Engineering was the area most frequently chosen by Asian Americans.

Like Asian American examinees, the number of Hispanic American examinees increased in virtually all fields. Their numbers were fairly evenly spread over all broad fields of study.

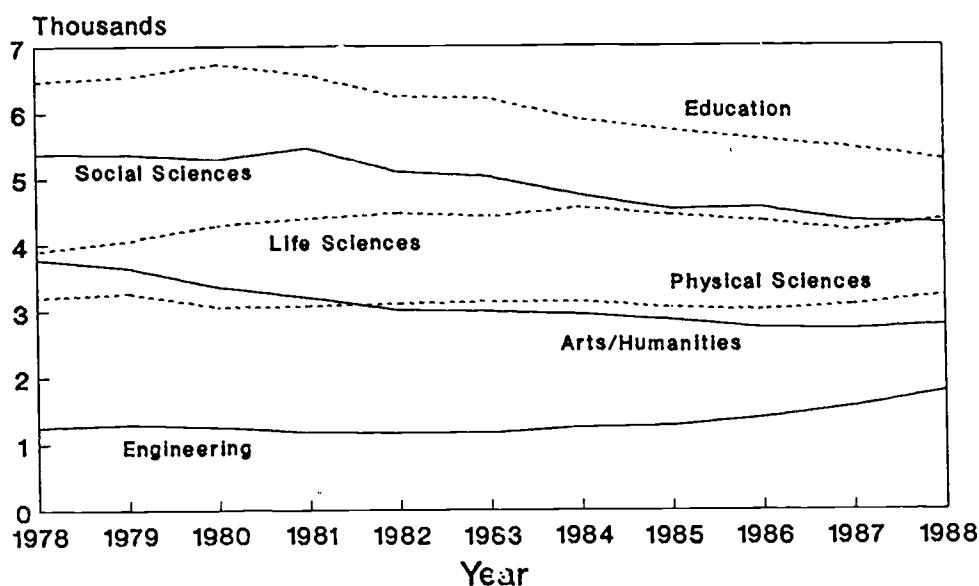
Trends Among Doctoral Candidates

It is fairly well known that students aiming for a master's degree have lower test scores and grades, on the average, than students aiming for a doctorate. Self-selection plays a primary role before the student ever takes the GRE.

The analyses discussed so far apply to all U.S. citizens who specified both graduate and undergraduate fields of study. On the average, just under 40% planned to earn a doctorate. For the talent flow data base, we computed a parallel set of all matrices just for examinees seeking a doctorate.

Doctorates conferred, by field of study. The GRE data base cannot be expected to reflect the actual flow of students into graduate school and, subsequently, to the earning of a doctorate. To see how much comparability there may be between the two populations, we compared the numbers of doctorates actually conferred to U.S. citizens in six broad fields with the numbers of GRE examinees planning to enter those fields. It is difficult to correct for the lag time between taking the GRE and receiving a doctorate because people require varying amounts of time to complete their graduate work, and because those who took the GRE most recently had not yet completed their studies.

Trends in Doctoral Recipients within Six Fields of Study (U.S. citizens only)



Source: National Research Council

We see, however, that both bases do support the conclusion that education, social sciences, and humanities lost popularity, at least through the mid-eighties and possibly later.

Comparisons in life sciences are rather difficult without recombining specific fields from the GRE data base. The number of doctorates conferred increased between 1978 and 1988, whereas the number of GRE candidates planning to earn doctorates declined and then rose gradually. These patterns do not appear to be consistent, especially when compared with those of education, humanities, and social sciences. The GRE trends in those three areas were very similar to the trend in each area of the life sciences, but the trend in the number of doctorates awarded in those three areas was the opposite of the trend in doctorates awarded in life sciences.

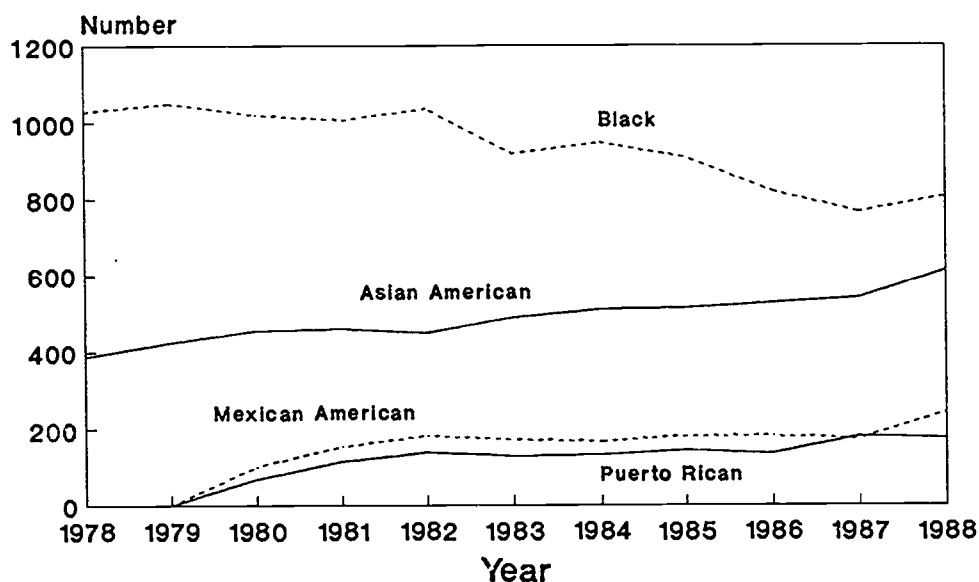
Physical sciences and engineering both showed upward trends in doctorates awarded and in the GRE files of examinees planning to earn doctorates in these fields.

Although the trends in some fields selected by GRE examinees followed the trends in doctorates awarded, this was not true of all fields. There were also some surprising discrepancies between the actual numbers of doctorates awarded in a field and the number of GRE examinees planning to earn a doctorate in that field.

In the social sciences and applied social sciences, from 14,000 to 20,000 examinees each year indicated the intention to earn a doctorate. In actuality, only about 5,000 students a year earned doctorates in social sciences. At the other extreme were engineering and education, in which the numbers earning a doctorate were nearly as high as the numbers taking the GRE and aspiring to do so. It is difficult to know how to explain these differences across fields in the capacity to predict doctorates earned from doctorates intended. Keeping the differences in mind is important when making predictions from GRE information.

Doctorates conferred, by ethnic group and gender. In addition to comparing GRE data with doctorates received by field of study, we also compared the two data bases by ethnic group and gender.

Trends in Doctoral Recipients among Four Ethnic Groups (U.S. citizens only)



Source: National Research Council

Consistent with the GRE data are the trends in doctorates awarded to each minority group. Of the four defined minority groupings, the Black group was the only one declining both in numbers earning doctorates and numbers planning to earn a doctorate. All other groups were increasing.

The percentage of all female doctoral recipients was discussed earlier when we noted that the percentage increased until 1986 and then leveled off. If the women earning doctorates took the GRE around 1981, the two data bases are consistent because the percentage of women planning to earn doctorates reached a peak around 1981 and remained roughly constant thereafter. Women taking the GRE in 1981 would have been earning their doctorates around 1986, when the numbers leveled off.

Trends among GRE examinees planning to earn doctorates. Rather than discussing all fields again for those pursuing a doctorate, we will note some highlights.

The number of examinees planning to earn a doctorate showed the same decline-and-rise pattern that we observed with the total data base, with a peak occurring in 1980. Each of the broad fields of study followed patterns very similar to those observed above.

Overall, the test scores of examinees planning to earn a doctorate increased during the 10-year period. Verbal means rose from 533 to 539, and quantitative means rose substantially, from 544 to 559. Several fields reflected these score increases more than did other fields.

Among examinees in applied biological sciences, verbal means rose from 517 to 534, and quantitative means rose from 574 to 582. It was entirely among males in these fields that the scores increased.

In the area of education we also observe an improvement in test scores. Verbal means increased from 488 to 496, and quantitative scores increased from 469 to 484. The greatest improvement in verbal scores was among males; the increase in quantitative scores occurred for both genders.

EXAMPLE 2: CHARACTERISTICS OF EXAMINEES WHO CHANGE FIELDS

External forces--economic, social, political, and scientific--may prompt people to select and change fields at any time during their student years. During the sixties, there was an intense awareness of social issues such as racial equality, a fear of nuclear war that aroused suspicion of technology, and a virtual shutdown of many scientific research facilities that contributed directly or indirectly to the Vietnam War effort by accepting Defense Department funding. Major corporations, such as Boeing and RCA, each laid off hundreds of engineers, Princeton University shut down its accelerator, and aerospace engineers were retooling for new careers. For several years there was a shortage of jobs for scientists and engineers and abundant jobs in education and in social welfare agencies. Federal fellowship support for graduate study in science and engineering declined during the seventies, as did the number of scientific and technical articles published. Correspondingly, science and engineering degrees awarded declined abruptly during the early seventies and stabilized later in the decade. (See National Science Board, 1983.)

Eventually, the pendulum began to swing the other way. Fewer jobs for humanities majors and teachers and low salaries in the service professions drove some students to consider the professions of business, medicine, law, engineering, biological sciences, and computer science, where the employment outlook had improved. (See Grandy, 1984, 1985.)

By the mid-eighties, student interest in law and medicine were in a decline, and business was soaring. Students had learned that computer science was difficult, which may account for its decline in popularity. Meanwhile, the humanities continued to decline, as did the sciences. (See Grandy, 1989; National Research Council, 1986).

CIRP surveys of college freshmen show that changes in occupational preferences appear to be associated with corresponding changes in student values. Liberal political attitudes were associated with the social concerns of the sixties; since 1970, a "middle-of-the-road" identification has steadily risen (Astin & Green, 1987). The wish to be very well off financially was not such an important goal in the sixties, when fewer than 40% of American freshmen identified that goal as essential or very important. By the later eighties, almost 80% of college freshmen had decided it was essential or very important (Astin, 1990). In an inverse relationship, the value of developing a meaningful philosophy of life declined from being essential or very important to more than 80% of the freshman class of 1967 to less than 40% of the 1987 freshmen. Finally, between 1986 and 1990, there was another swing of the pendulum. It became very important or essential to influence social values and influence the political structure. Along with this desire to become personally involved in changing American society came a renewed interest in developing

a meaningful philosophy of life and promoting racial understanding. Furthermore, the importance of financial security began to decline, and the desire to clean up the environment began to rise.

Although we cannot be sure that students starting graduate school reflect the same values as incoming freshmen, it is likely that their values are similar because they do reflect the values of the larger culture around them.

Aside from external forces that influence student values and beliefs about occupations and the job market, there are characteristics of the individual that lead students to recognize the fields that might be most appropriate for them. In the case of students who are "late bloomers" or who are inspired by particular undergraduate courses or professors, this recognition may not occur until their senior year in college, at which point, because it is too late to declare a change in undergraduate major, they decide to enter graduate school in a different field.

In the large number of students who spend some time in the work force between undergraduate and graduate school, this self-recognition process may be even more marked because work experiences may lead college graduates to reevaluate their interests. Perhaps one compelling reason for choosing a graduate major is a feeling that one "belongs" in that field.

This feeling may be based on a belief that others in that field are of similar ability level or that they share the same background characteristics and interests as the applicant. While the GRE data do not permit us to gauge examinee interests, they do allow us to conjecture about examinees who may be changing fields because of convictions about their ability or about their background characteristics vis-a-vis those of others in their chosen field. The concurrent survey of GRE examinees mentioned earlier will enable us to test some of these hypotheses and to elaborate upon the statistical findings we are presenting here.

Changers versus Nonchangers

The matrix structure of the talent flow data base lends itself to many approaches for studying changes in major field. In the detailed matrices, those cells lying on the diagonal contain data on people who planned to continue their graduate program in exactly the same field as their undergraduate major. Those off the diagonal intended to change fields, though that change might have been to a "nearby" field, such as the change from biology to microbiology, or it may have been a radical change, such as from mathematics to archaeology.

The smaller matrices were designed to cluster fields so degrees of change would be less of a problem to define and calibrate. Anyone remaining in the same general area is regarded as not changing. Anyone moving from a pure to an applied area or to education is seen as having made somewhat more of a change, although they may have been preparing for the applied field or for teaching when they chose the undergraduate major. If they changed between other broad areas of study, we defined their move as a definite change. A move, for example, from some area of humanities to some social science is regarded as a definite change.

To simplify preliminary analyses, we regarded a person who made any change, even a small one, as a "changer." Anyone who remained in the same broad field of study (on the

diagonal of the matrix) was analyzed as a "nonchanger." For most purposes of studying talent flow, these definitions seem adequate. To the individual student, of course, change may be perceived quite differently. Furthermore, by our definition, the changer category is overinclusive; that is, it includes people flowing from a preparatory field to a graduate specialty, such as biology majors intending to go to medical school. Thus, the number of people included as changers in our analysis is an overestimate of the number of people who actually decided to change into a different field.

The analyses in this section will compare the characteristics of the "on-diagonal, non-changers" to the characteristics of the "off-diagonal, changers." We will examine each of the 10 broad categories of undergraduate majors in turn. Trend tables for males and females combined and for males separately and females separately are in Tables 2.1 to 2.10, (for each graduate specialty), in Tables 3.1 to 3.10 (for each undergraduate major), and in Tables 4.1 to 4.10 (for those whose undergraduate and graduate majors were the same).

Undergraduate arts and humanities majors (Tables 3.1 and 4.1). About a third of undergraduate arts and humanities majors choose a different field for their graduate work. This percentage held fairly constant from 1978 to 1987. The percentage of undergraduate arts and humanities majors who were female also held fairly constant, at about 58%. It may be surprising, however, that when male undergraduate humanities majors are compared to female majors, it is the females who showed a greater tendency to change fields. Across the studied years, about 73% of the males who majored in humanities intended to continue in this field, as opposed to only 56% to 60% of the females. GRE scores did not seem to be a factor: nonchanger scores were about the same as those for humanities majors as a group.

The percentage of undergraduate arts and humanities majors who were over 30 at the time they took the GRE was high and steadily increased across the study period (17% in 1978 to 31% in 1987). Among those who intended to stay in the humanities, the percentage was somewhat lower (10% in 1978, 22% in 1987). Therefore some of the older people tended to be changers. Many of these people gravitated toward majors in education.

The percentage of humanities majors pursuing a doctorate increased slightly over the study period (from 36% in 1978 to 42% in 1987). It is not surprising that those humanities majors who remained in the humanities were even more likely to be seeking doctorates (40% were in 1978 and 47% in 1987).

Undergraduate physical science and mathematics majors (Tables 3.2 and 4.2). Undergraduate physical science and math majors tended to choose the same field for graduate school. Over the 10-year period studied, about three-quarters of them were nonchangers. These examinees scored high on all three parts of the GRE, with quantitative scores around 650, verbal scores around 530 and analytical scores around 600.

Physical science majors tend to be young when taking the GRE, although there is a trend toward a slightly higher percentage of older physical science major examinees. In 1978, less than 8% were over 30 but by 1987 the percentage over 30 had doubled. The percentage over 30 among those who remained in the physical science field from undergraduate to graduate school

was slightly lower (4% in 1978 and 12% in 1987). Therefore, some of the physical science majors who changed fields must also have been older people. The few undergraduates who left physical sciences or mathematics tended to go into engineering or education.

The transition from physical science to education might be worthy of exploration in some detail because these people are likely to become the science and mathematics teachers who are most knowledgeable in their discipline. The talent-flow data base shows that in 1987, 886 undergraduate physical science majors intended a graduate major in education. The mean GRE scores for these changers (verbal = 509, quantitative = 639, analytical = 581) were slightly lower than those for undergraduate physical science majors as a group (verbal = 529, quantitative = 649, analytical = 609), but they were high enough for admission to many graduate science programs and certainly higher than those of the average graduate education major (verbal = 460, quantitative = 462, analytical = 488). It cannot be true, therefore, that all of these examinees were moving from physical science to education because they were of lower ability than the majority of physical science majors (at least in terms of GRE scores). An examination of GPA in major may shed more light on their rationale.

In 1987, the 886 undergraduate physical science majors had a mean GPA in major of only 2.98, whereas the 11,894 nonchangers had a mean GPA in major of 3.24. The physical science to education changers also tended to be much older (mean age of 31 in the 1987 cohort) than the nonchangers (whose mean age was only 24). The physical science to education changers had other characteristics (58% were female, 10% were Black, 20% had fathers with graduate or professional degrees) that differentiated them from the physical science nonchangers (29% female, 4% Black, 30% with fathers with graduate or professional degrees). Therefore, the fact that these changers found their niche in teaching as opposed to physical science may have more to do with their sex, age, ethnicity and family background than it does with their ability as measured by the GRE.

This analysis is an informal one. Future studies using the talent-flow data base could employ more rigorous statistics to estimate the contribution of each of these variables to the prediction of whether or not a physical science major (or other major) will change fields.

Undergraduate engineering majors (Tables 3.3 and 4.3). Engineering students tended to be among the youngest (mean age 24) at the time they took the GRE. Undergraduate engineering majors also tended to be among the most faithful to their field when choosing a graduate major: about 80% of them remained in engineering. This was true of both males and females. Among the relatively few who did change fields, the majority opted for physical science or math. Similarly, a physical science/math undergraduate degree could also be a ticket into graduate engineering; very few graduate engineering majors came from other fields.

The percentage of females in both undergraduate and graduate engineering programs remained small (about 17% in 1987, increasing from about 11% in 1978). Female engineering majors still scored somewhat lower, on the average, than their male counterparts on the General Test quantitative section, but their average analytical and verbal scores were consistently higher than the average scores of males.

Engineering, both graduate and undergraduate, had the highest representation of Asian Americans of any field, and this representation increased slightly throughout the 1980s--from about 6% to about 9%. (These data do not take into account the large number of non-U.S. citizens in engineering). The number of Black test takers planning to study engineering at the graduate level, while small (482 in 1987), more than doubled between 1978 and 1987.

Undergraduate biological science majors (Tables 3.4 and 4.4). Biological sciences is a field that is much less inbred than engineering; in fact, about half of graduate biological sciences majors come from other broad fields. "Pure" biological sciences as a graduate major was much less popular than it is as an undergraduate area. In 1987, there were 12,635 undergraduate majors in a biological sciences field but only 7,852 people intending to major in one of those fields in graduate school. Biology, in particular, was a feeder to many programs at the graduate level, including the other "pure" fields of botany, zoology, microbiology, and genetics. In addition, it fed the applied biological sciences and health sciences, many of which were not available on the undergraduate level. In general, biological sciences was a shrinking field during the 1980s, both in undergraduate and in graduate schools.

What were the characteristics of people who remained in "pure" biological sciences in contrast to those who moved into a service-oriented field? Among the nonchangers, about half were female. The female nonchangers tended to be slightly less likely to be pursuing a doctorate (57% indicated they would in 1987) than were the male nonchangers (about 65% of whom intended to pursue a doctorate). In other important respects (GRE scores, age and ethnic composition) the female nonchangers in this field were much like the males.

The undergraduate biological sciences majors who moved to other fields tended to go to health science and services, education, business and public administration, and applied biological/environmental science, in that order. We can work up a profile of the typical person who moved from biological sciences to health sciences and services in 1987. Sixty-four percent were female. Their mean GRE scores were: verbal, 568; quantitative, 570; and analytical, 570--not much lower than the scores of verbal, 571; quantitative, 578; and analytical, 577--for the Biological science majors who remained in biological sciences. They were still quite young (average age of 24), the same as for nonchangers at the time they took the GRE. Their mean GPA of 3.10 in their major compared quite favorably to the 3.12 GPA in major of the average nonchanger.

They were no more likely than nonchangers to be Black, Hispanic, or Asian American (each ethnic group constituted about 4% of each population). They may have been slightly less likely to have a father with a graduate degree (24% did) or a mother with a graduate degree (12% did) than was the average nonchanger (31% of whom had fathers, and 15% mothers, with graduate degrees). There are undoubtedly other compelling reasons (social concerns, family obligations, altruism) which lead people away from a career in "pure" biological science and into a service-oriented field, but from our limited data, the fact of being female seems to be most strongly associated with that decision.

Undergraduate applied biological/environmental science majors (Tables 3.5 and 4.5). This was a relatively small field for both graduate and undergraduate students, attracting about 3,000

students in each group in each year. It includes such fields as audiology, entomology, mining, forestry, and environmental science. The percentage of females in both the undergraduate and graduate programs increased slightly but steadily over the study period, and in 1987 about 37% of undergraduates in this field were female.

About 57% of the undergraduate majors taking the GRE intended to continue in an applied biological or environmental science major. About 30% of those continuing intended to earn a doctorate, whereas over 40% of those changing to other fields are aiming for a doctorate. The changers tended to gravitate toward health sciences or biological sciences.

There was a low representation of minority group members in the cohorts of both undergraduate and graduate students in this field. The percentage of people over 30 in the graduate field grew substantially, from 6% in 1978 to 17% in 1987, but it was still well below the average for all GRE takers (28%). Mean GRE scores for examinees in this field were somewhat higher than average on quantitative and about average on verbal and analytical.

Undergraduate social science majors (Tables 3.6 and 4.6). About one-quarter of undergraduates who took the GRE had majored in a social science field. Approximately 19% of graduate students intended to major in one of these fields. Therefore, there were a substantial number of changers among undergraduate social science majors. In fact, about 40% of undergraduate social science majors changed fields. The fields they gravitated to were education, business, and applied social science, in that order. In 1987, education attracted 4,832 of the 35,814 undergraduate social science majors; 22,310 remained in a social science field.

These two groups of people (nonchangers, and social science-to-education changers) were different in several respects and deserve a detailed examination here. The GRE scores of those who moved into education were low (verbal = 489, quantitative = 472, analytical = 501) compared to those of nonchangers (verbal = 521, quantitative = 517, analytical = 545). With an average GPA in major of 3.09, the social science-to-education changers were once again lower than the nonchangers, whose average GPA in major was 3.32. Changers to education also tended to be older, with an average age of 30, while nonchangers were on average about 25 at the time they took the GRE. Finally, the changers to education were about 67% female but the nonchangers were only about 56% female. It appears that women with relatively low quantitative skills were abandoning careers in a social science field for a less quantitatively demanding career in education. This trend parallels that of the pure biological science majors who migrated to a health services field.

Undergraduate applied social sciences majors (Tables 3.7 and 4.7). Applied social science fields include social work, library science, journalism, and communications. About 70% of undergraduates, and about 74% of graduate students, in this field were female. Black and Hispanic examinees were well represented among the undergraduate majors and particularly among the nonchangers (those who intended to continue in this field). Very few of the examinees who intended to do graduate work (about 15%) in this field were going for a Ph.D. Scores tended to be low; means were well below 500 on each part of the General Test.

About 60% of those who intended to major in this field also did their undergraduate work in the same field. Those who did their undergraduate work in a different field tended to come from social sciences or from arts and humanities. People who migrated from arts and humanities into this field tended to have much higher scores on all three parts of the GRE than did those who came from either the applied social science or social science field.

Undergraduate health sciences majors (Tables 3.8 and 4.8). Health sciences at the undergraduate level was undoubtedly the most female-dominated of all fields; about 89% of undergraduate majors were females. Average GRE scores hovered just below 500, and doctoral aspirations were low--only about 25% of undergraduate health sciences majors aspired to a doctorate. There was a very high percentage of older students. In fact, in 1987, 45% of undergraduate health sciences majors were over 30. This represents a steady increase from 22% in 1978.

About 74% of those who intended to major in a health sciences field in graduate school came from one of these fields as undergraduates. Most of the others came from biological sciences, as discussed above.

About 80% of graduate students in these health sciences and services were female, and the relatively few men who chose to enter these fields differed substantially from the women on several dimensions. The first dimension was ability, in particular, math ability. Male graduate students who intended to major in this broad area had GRE quantitative scores of about 570, whereas the mean score for females was only 495. About 54% of the males intended to pursue a doctorate in this area, but only 27% of the females did. The males also tended to be younger, with only 19% being over 30 years old, as compared to 35% of the females. In fact, the males in this field seemed so different from the females that it is important to look at the specific fields within health sciences and services to see if particular fields attracted men and women of different abilities, or if the gender ratios in each field were very different.

A look at the detailed matrices (which show the transition of majors for each individual major field) reveals, not surprisingly, that more males were intending to major in medicine, veterinary medicine, and dentistry; the majority of females were drawn to nursing and nutrition. Therefore, the health sciences area, at least at the graduate level, is such an eclectic one that it is hard to make generalizations about those who intend to specialize in one of its fields.

In future studies of talent flow, researchers may wish to divide health sciences fields according to degree aspiration so that medicine and veterinary medicine, which attract high-scoring individuals, will be separate from nursing, nutrition, and other fields that tend to attract lower scoring individuals aiming for a master's degree. The talent flow data base, as it now exists, contains matrices for examinees planning to earn a doctorate as well as matrices for the whole population of U.S. citizens taking the General Test.

Any researcher studying talent flow within the health sciences will have to exercise caution in the study design so as not to confound gender, degree aspirations, and field of study. Simply because they are correlated, they are not interchangeable as categories for analysis, and there is a strong tendency to infer causation in the relationships observed between these categories and the mean test scores associated with these categories.

It is also important to remember that medical school applicants often do not take the GRE, so those in the data base may not be representative of all medical school applicants. Most likely, those who take the GRE are also considering other graduate or professional school options, such as physiology, biochemistry, or veterinary medicine. Those programs generally require GRE scores.

Undergraduate education majors (Tables 3.9 and 4.9). Education is among the most popular majors. About 15% of the undergraduates who go on to take the GRE have majored in education, and about 20% of GRE examinees choose education as their graduate school field. These figures were fairly constant throughout the 1980s. Education is also a field with relatively few changers: in 1987, 82% of undergraduate education majors continued in that field.

Undergraduate education majors in the years studied were predominantly female (79%) and had a higher representation of minorities than did most other fields, although the percentage of Black education majors dropped slightly, from 9% in 1980 to only 6% in 1987. Representation of Hispanics and Asian Americans remained fairly constant. One outstanding feature of undergraduate education majors is a tendency to be older at the time of GRE, and this tendency seems to have increased throughout the 1980s. In 1978 only 25% of the education majors were over 30, but by 1987 this percentage had increased to 44%. GRE scores for education majors increased very slightly over the period but remained relatively low, at 443 verbal, 450 quantitative, and 478 analytical in 1987.

Males who intended to do graduate study in education were different from females in this field in two important respects. First, they were more likely to be pursuing a doctorate (36% of the males in 1987 claimed to be doing so, as opposed to only 20% of the females). Second, an even higher percentage of males (53%) than females (43%) was older than 30 when they took the GRE.

The vast majority (82%) of undergraduate education majors taking the GRE intended to continue their studies in education. The fields attracting the remainder of the undergraduate education majors included social sciences, applied social sciences, arts and humanities, and health sciences, in that order. Undergraduate education majors who moved into other fields tended to have higher GRE scores than those who remained in education.

The graduate education majors who did not come from an undergraduate background in education were from a variety of fields. The GRE scores for these examinees tended to be quite high for graduate education majors but somewhat lower than those of other examinees in their respective undergraduate fields.

Undergraduate business and public administration majors (Tables 3.10 and 4.10). Business is a field that had notable fluctuations during the 1980s. The GRE-taking population may not be representative of either undergraduate business majors or of those intending to pursue graduate studies in business, because many of the more serious business students (those interested in M.B.A. programs, for example) would probably be taking the GMAT. Nevertheless, like students considering medical school, some students consider business as one alternative among many possible fields of graduate study, so they may take the GRE to apply in those other fields.

In spite of the fact that the present study group may be a nonrepresentative sample of undergraduate business majors, some trends may be observed. For example, the number of undergraduate business majors peaked in 1980 at 6,684, declined to 4,399 in 1984, and then rose to 5,832 in 1987. Numbers of GRE examinees intending graduate study in business followed a similar trend, with a high of 15,404 students in 1980, a low of 8,118 in 1984, and a more moderate number of 9,681 in 1987.

It is clear from the above numbers that there were more GRE examinees going into business as a graduate field than there were coming out of a business undergraduate major. In fact, in 1987 a graduate business major attracted more people from the social sciences than from undergraduate business. Undergraduate social science majors interested in business had GRE verbal, quantitative and analytical score means that were about 50 points higher than those of the undergraduate business majors.

Business as a major for both undergraduate and graduate students is a field that became increasingly attractive to women throughout the 1980s. About 49% of undergraduate business majors were female in 1987, in contrast to only 33% in 1980. Among graduate business majors the increase was equally marked: from 41% female in 1980 to 57% female in 1987. Business is also a field that is very attractive to Black examinees, particularly Black female examinees. For example, in 1987, 14% of the females with an undergraduate major in business were Black, 15% of the females with an intended graduate major in business were Black, and 20% of females with both undergraduate and graduate major in business were Black. These figures remained fairly constant throughout the 1980s.

Variables Associated with the Decision to Change Fields

To explore the relationship of background variables and scores to the decision to change major fields, we crosstabulated a changer/nonchanger indicator with background variables that had been dichotomized using the data from 1987.

A person was defined as a changer if he or she moved from an undergraduate major in one of the 10 broad major groups to another broad major group. Therefore a person who had an undergraduate major in physics and who chose to do graduate work in chemistry would not be categorized as a changer, but a person who moved from physics to electrical engineering would.²

Cross-tabulations were performed on GRE examinees from 1987 within the 10 broad undergraduate major categories. Seven demographic or background variables were recoded to two categories each. The variables and their recoded categories are as follows:

²We remind the reader that changes within a broad field of study, with the exception of the biological sciences, is rare. This is probably the case because the curriculum that prepares a chemistry major is very different, for example, from the curriculum that prepares a physics major. A chemistry major might, on the other hand, switch to economics because he or she may have taken necessary social science courses while majoring in chemistry, and the mathematics courses taken for a chemistry degree would be equally suitable preparation for economics. Some fields, of course, are exceptions. Computer science, for example, draws people from all academic backgrounds, including other physical sciences, especially mathematics.

| <u>Variable</u> | <u>Category 1</u> | <u>Category 2</u> |
|-----------------------|-------------------|------------------------|
| Gender | Male | Female |
| Ethnicity | White | Non-White |
| Year of B.A./B.S. | Still in college | Already out of college |
| Degree objective | Masters or lower | Doctorate or postdoc. |
| UGPA in major | B or lower | A- or A GPA |
| Father's education | Not college grad. | College grad. or above |
| Hours community serv. | None | One or more per week |

Finally, t-tests were performed on the GRE verbal, quantitative and analytical score means of examinees in the changer and nonchanger groups in each of the 10 broad major categories.

Relationship of gender to the decision to change or not to change fields. Table 5.1 shows the relationship between gender and the decision to change, or not to change, fields. For nine of the major fields, the gender composition of the changer group was found to be significantly different from the composition of the nonchanger group. In arts and humanities, physical sciences, engineering, biological sciences, applied biological sciences and social sciences, there were higher percentages of females in the changer than in the nonchanger groups. The reverse was true in applied social sciences, health sciences, education, and business.

There is no doubt that course work in the six former fields is generally more academically rigorous than in the four latter fields. The four applied areas, on the other hand, are more directly service oriented and/or require greater interpersonal skills. It seems that women in the more rigorous fields tend to move to less rigorous, more "people-related" fields, and those in the applied fields tend to stay in those areas.

Tables 5.1 to 5.8 provide an easy way of comparing the number of changers to nonchangers in each field. In general, nonchangers exceeded changers by a ratio of two-to-one (arts and humanities, physical science and math, engineering, social sciences, health sciences, and especially education). In biological sciences, however, the number of changers was almost exactly equal to the number of nonchangers. In applied biological sciences and in applied social sciences, the number of nonchangers was only slightly greater than the number of changers. And in business and public administration, more undergraduate majors were moving out of the field than were staying in.

Relationship with ethnicity. It should be remembered that the data used in all analyses include only U.S. citizens. Therefore, the 11.4% of the changer group for arts and humanities who were non-White were U.S. minority examinees. Several results of the cross-tabulation of ethnicity by the changer/nonchanger indicator were nonsignificant. In other words, the ethnic composition of the changer and nonchanger groups within these fields was not significantly different. In general the percentage of minorities in these groups was below 20%. The notable exception is in the group of business and public administration undergraduates who remained in that field for graduate study. Twenty-five percent of these examinees were minority group members; as mentioned above, a large proportion were Black females.

Relationship with year of bachelor's degree. Because this analysis was conducted on the 1987 GRE file, examinees were likely still to be in college if they had graduation years of 1987 or later; anyone graduating in 1986 or earlier was categorized as "already out". Because more than half of GRE examinees in general have completed undergraduate school by the time they take the General Test, it is not surprising that high percentages of both the changers and nonchangers categories in each major field were already out of college. In each field except education, the percentage of the changer group who were already out significantly exceeded the percentage of the nonchanger group who had already completed college.

It is not surprising that examinees who have been out of college for one or more years would be more likely to think of changing fields than would examinees who are still in college at the time they take the GRE. Work experiences and other postcollege activities open new interests and may lead to a desire to pursue a new career path. Large proportions of examinees who change out of arts and humanities, health sciences, and business have already graduated from college.

Relationship with degree objective. Table 5.4 shows the percentages of changers and nonchangers in each undergraduate major who aspired to a doctoral degree. In the four disciplines that are more academically oriented (arts and humanities, physical sciences and math, biological sciences, social sciences), the percentage of doctoral aspirants in the nonchangers group exceeded that in the changers group. Therefore, those who were inclined to go the furthest in an academic field tended to stay in the field in which they did their undergraduate work. Conversely, the six remaining fields (which may be characterized as more "applied") had higher percentages of doctoral aspirants choosing to change fields. The highest percentage of doctoral aspirants was in the group of social science students who were remaining in a social science field for graduate school.

Relationship with undergraduate GPA in major. It seems reasonable that examinees who have performed exceptionally well in course work in their major would consider remaining in that major for graduate study and those with less impressive performance might consider changing fields. This hypothesis seems to be born out by Table 5.5, which shows the percentages of changers and nonchangers in each field who achieved A or A- averages in their majors. In all fields except education and business, the changers group had a significantly higher percentage of A or A- students than did the nonchangers group. This distinction is particularly marked in Arts and humanities, where 63.7% of nonchangers had an A or A- average but only 47.4% of the changers achieved such an average.

The grade distinctions between changers and nonchangers in physical sciences and math and in social sciences were also considerable. In rigorous fields such as math and physical sciences we might expect students who have difficulty mastering the material in their field to change into a less demanding field.

Relationship with father's education. We may hypothesize that students whose parents are more highly educated would concentrate in academically oriented fields and would tend to continue in

these fields through graduate school. We dichotomized variables for both father's and mother's education levels to categories of "less than four years of college" and "bachelor's degree or above". In general, mothers were less highly educated than fathers. The level of mother's education seemed to have little relationship to undergraduate field choice or the decision to remain in the field for graduate school. Father's education seemed to be related to change of field in several areas, however. There were somewhat higher percentages of examinees with highly educated fathers in arts and humanities, physical sciences and math, engineering, and biological sciences. In arts and humanities and in physical sciences and math, these percentages were significantly higher for nonchangers than for changers. The reverse was true in the more "applied" fields of health sciences, education, and business: in these fields the changers tended to have more highly educated fathers.

Relationship with community service. A variable for number of hours of community service was dichotomized into two categories: "none" and "one or more hours per week". As might be expected, virtually all (at least 70%) examinees in applied social sciences and education performed some community service during college but fewer than half of engineering students did so.

Examinees changing out of academic fields such as arts and humanities, physical science and math, biological sciences and social sciences were more likely to perform community service than were the examinees remaining in these fields. Conversely, the examinees who remained in such fields as applied social science, health sciences, and education (which include many of the "helping professions") were more likely to perform community service than were the examinees who left these fields.

Relationship with GRE scores. We have conjectured throughout this study that examinees tend to find their niche when applying to graduate school. This involves applying to programs where, first of all, one is likely to be accepted, and second of all, one is likely to be comfortable. Comfort involves finding colleagues with similar, or at least complementary, backgrounds, interests, and abilities. We have explored the relationship between several background variables and the decision to remain in, or change from, one's undergraduate major. Ability level may, however, have an even stronger bearing on this decision. Because GRE scores offer three measurements of ability to pursue graduate study, Table 5.8 shows some complex relationships between scores and the decision to change majors.

In summarizing Table 5.8 we can say that examinees who remain in academic disciplines (such as arts and humanities and physical sciences and math) tend to have higher scores than do undergraduate majors in these fields who decide to pursue other graduate work. Conversely, examinees who move out of such fields as education, business and applied social sciences tend to be higher scoring than the examinees who remain in these fields.

Looking further at Table 5.8, we can see that examinees leaving arts and humanities are not, in general, those with lower verbal scores but those with lower quantitative and analytical scores. In engineering, those with the highest quantitative and analytical scores tend to stay and those with somewhat higher verbal scores may seek other fields. In social sciences, the

nonchangers are significantly higher than the changers on all three parts of the GRE.

None of these conclusions are entirely surprising, but they do provide a kind of construct validity for the GRE as an indicator of the general academic ability required to undertake graduate study in various areas. Students who cannot succeed in a rigorous field seem to know that fact before taking the GRE, and they opt for fields that are less rigorous. Students who are outperforming their colleagues in less demanding fields know that they are capable of more challenge, so they switch to more rigorous fields. The scores of both kinds of students subsequently confirm their self-estimates of their abilities.

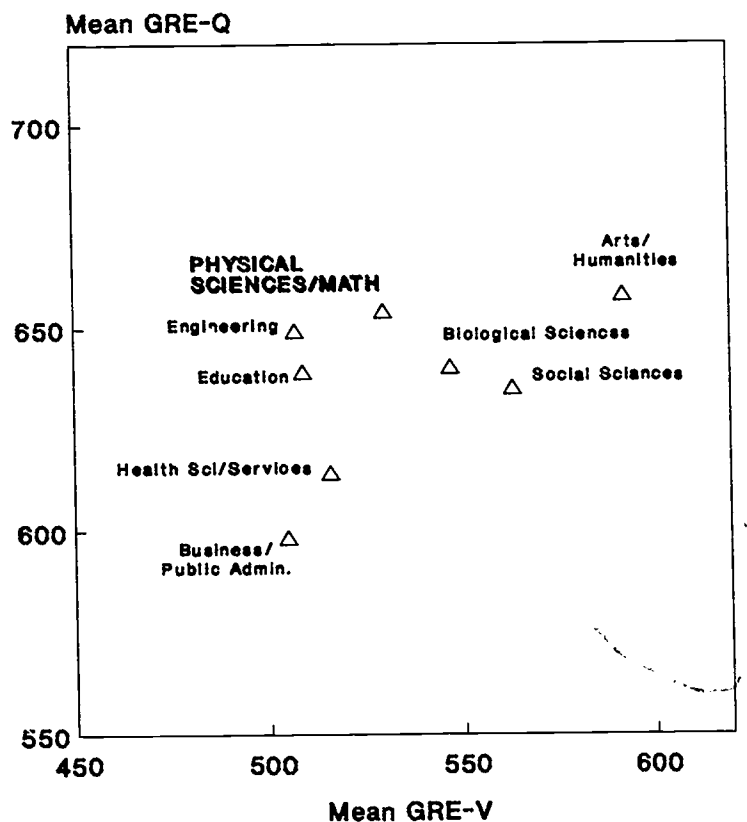
EXAMPLE 3: A LOOK AT GRADUATE FIELD CHOICE FROM ANOTHER ANGLE

We know from GRE data and other sources that students entering a field such as chemical engineering have higher quantitative skills and probably lower verbal skills than do students entering a field such as comparative literature. This is not a very profound observation, and, indeed, we would hope that studies of talent flow would move beyond the obvious. But in this same light, it would be informative to know if students who have already completed an undergraduate major in one subject select a graduate field in accordance with their relative verbal and quantitative skills. We explored this question in a graphic mode, plotting mean GRE verbal scores on one axis and mean quantitative scores on the other.³

Within the graph are points for graduate fields having the ordered pair of verbal and quantitative means for the group under consideration. More simply, consider the following chart.

³We found that plots of verbal against analytical, or quantitative against analytical, were not very informative. The analytical score behaved like an "average" of the other two and did not give the striking separation of points that we observe with verbal versus quantitative.

GRE Verbal vs Quant. Score Means in 1987 for Physical Science and Math Majors Planning Graduate Work in Selected Areas



U.S. cit. only. N > 250 in each area.

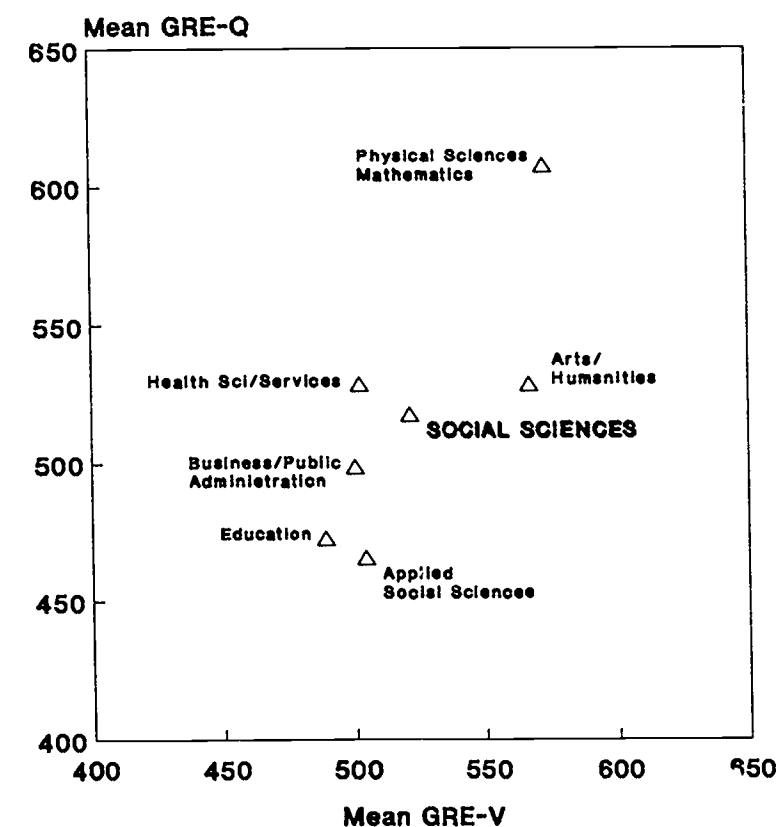
This chart was generated for all examinees having undergraduate majors in physical sciences or mathematics. Those planning to do their graduate work in business or a related area of administration tended to score lower on both the verbal and quantitative test sections than did those planning to continue in other fields. Those planning to switch to arts and humanities scored quite high on both sections; those switching to engineering scored high in quantitative but relatively low in verbal. Their verbal scores were approximately the same as the scores of physical science major planning to study education, health sciences and services, and business.

It is especially interesting to note that people with extremely high verbal skills left the physical sciences for the humanities even though their quantitative skills were as high as or higher than those of their colleagues who continued in the physical sciences.

This kind of analysis suggests that people change fields not just because of economic conditions or because they cannot make it at the graduate level in the field in which they have done their undergraduate work. For a highly verbal as well as highly quantitative science student to leave the sciences for the humanities suggests an important lack of verbal challenge for that student in the physical sciences.

The following graph shows the intended graduate fields of study for examinees earning a bachelor's degree in the social sciences.

**GRE Verbal vs Quant. Score Means in 1987
for Majors in Social Sciences
Planning Graduate Work in Selected Areas**

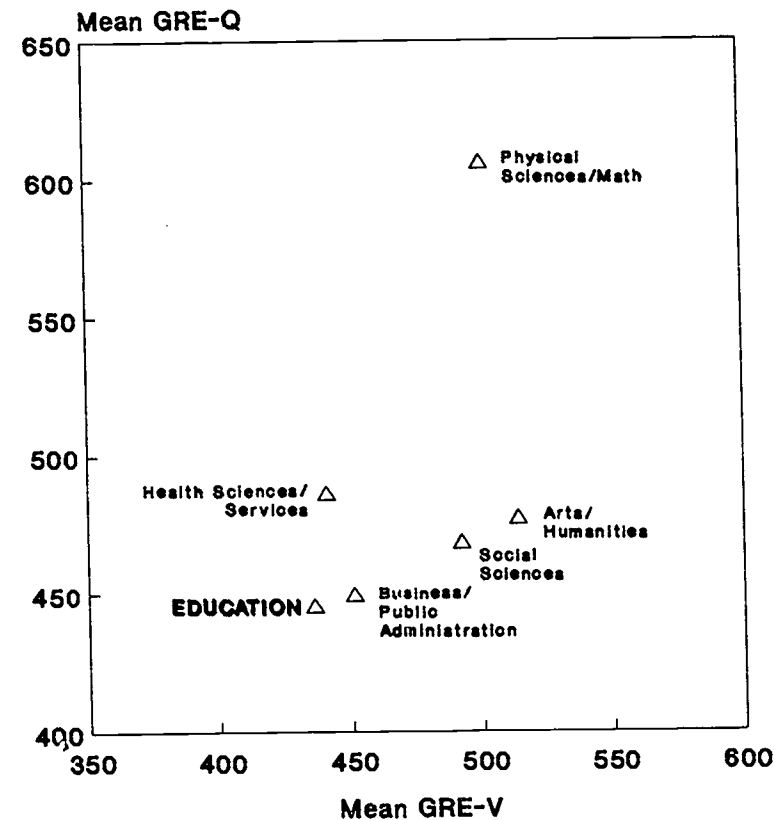


U.S. cit. only. N > 300 in each area.

What stands out most remarkably is that a sizable number of social science majors planned to switch to the physical sciences or mathematics, and that those who were switching had verbal and quantitative scores considerably higher than did those remaining in the social sciences. Examinees choosing to move into the applied social sciences had quantitative scores that were not up to the average for students continuing in the social sciences. The abilities of those moving into education and business fell short of both verbal and quantitative skills.

Examinees who majored in education also show a very informative pattern.

GRE Verbal vs Quant. Score Means in 1987 for Majors in Education Planning Graduate Work in Selected Areas



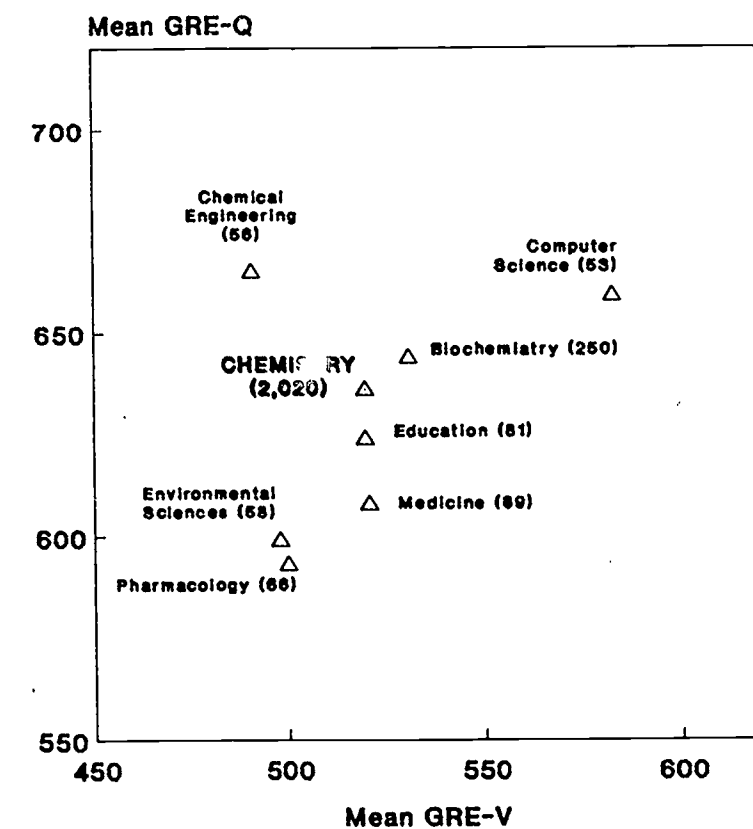
U.S. citizens only.

Those who planned to remain in education for their graduate work earned the lowest combination of verbal and quantitative score averages. Education majors with the highest scores on both sections switched to the physical sciences or mathematics. Much higher verbal and slightly higher quantitative students moved into the arts and humanities or social sciences.

Having seen that clear patterns exist to explain the movement from one broad field of study to another, we selected several specific major fields to see if students choose their area of specialization in accordance with relative verbal and quantitative skills.

This first chart is for the 3,356 examinees who reported an undergraduate major in chemistry in 1987.

GRE Verbal vs Quant. Score Means in 1987 for Chemistry Majors Planning Graduate Study in Frequently Chosen Fields

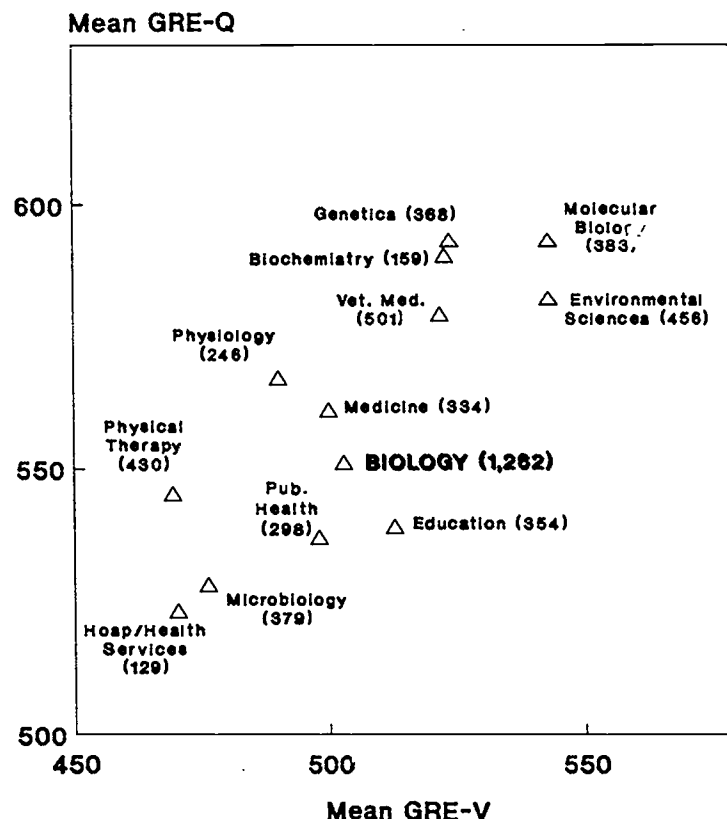


U.S. cit. only. Number in parentheses.

Of this group of chemistry majors, 56 planned to switch to chemical engineering for their graduate work. The average verbal score of those 56 students was lower than the average verbal score of students who intended to continue in chemistry, and their quantitative scores were higher. This profile would fit well with the images of people in both of these professions. Notice that 53 chemistry majors with higher average verbal and quantitative scores than their colleagues planned to do graduate work in computer science. Those switching to education or medicine had lower quantitative abilities than those of their colleagues, and 66 of the chemistry majors with lower verbal and quantitative skills than those of their colleagues switched to pharmacology.

Many of the chemistry majors who changed fields switched to a quite different area, probably because chemistry does not lead to a great many graduate specializations. Biology, on the other hand, does branch into many specialties at the graduate level. The next graph shows that the specialties seem to be associated with relative amounts of verbal and quantitative skill.

GRE Verbal vs Quant. Score Means in 1987 for Biology Majors Planning Graduate Study in Frequently Chosen Fields



U.S. cit. only. Number in parentheses.

The high verbal, high quantitative biology majors seemed to aspire to molecular biology, a field that is certainly in the spotlight of science today. The biology majors with the lowest average verbal and quantitative scores were planning to enter hospital and health services. There are essentially no fields with sizable numbers attracting people with high verbal/low quantitative, or vice versa. The all-around bright students head for molecular biology, environmental sciences, genetics, biochemistry, and veterinary medicine. Those with relatively low academic skills, compared with other biology majors, head for hospital and health services, microbiology, public health, physical therapy, and education.

COMMENT ON THE EXAMPLES

The limited analyses we have done with the talent flow data base have permitted us to make some generalizations about GRE examinees over a 10-year period and about their choices to remain in, or move out of, a major field. We have been able, through use of the matrix data, to describe the background and score characteristics of groups of individuals who make certain transitions in major (for example, from physical sciences to education). We have been able, through cross-tabulations of the raw data, with associated significance tests, to determine which background and score variables have a statistically significant relationship to the choice to change, or not to change, majors for groups of people in 10 broad majors.

We have been able to draw comparisons between males and females in the same fields, and we have been able to note the differences between academically oriented majors (such as arts and humanities, physical science and math, biological sciences, social sciences and, to a lesser extent, engineering) and the service-oriented majors (applied biological sciences, applied social sciences, health sciences, education, and business) in terms of the examinees they attract and retain.

Many of the conclusions we have drawn conform to prior experience and expectation. We have tried to examine some of the demographic characteristics (gender, ethnicity), background variables (year of bachelor's degree, degree objective, father's education, hours of community service) and abilities (undergraduate GPA in major and GRE scores) that may have a bearing on decisions about graduate field of study. We have not, of course, been able to explain any of the idiosyncratic reasons that lead people to switch from one field to another.

In a concurrent GRE study, we are surveying a sample of examinees earning bachelor's degrees in math, natural sciences, and engineering to determine some of the factors that may lead them to change fields or to remain in the same field for graduate school. Information from that survey will enhance our understanding of patterns we are observing in the talent flow data base.

SUGGESTIONS FOR FURTHER RESEARCH

Within the limits of this initial project, it has been impossible to analyze all major fields and combinations of major fields or to explore the data in the light of broader economic or social trends that would be likely to affect the directions of talent flow.

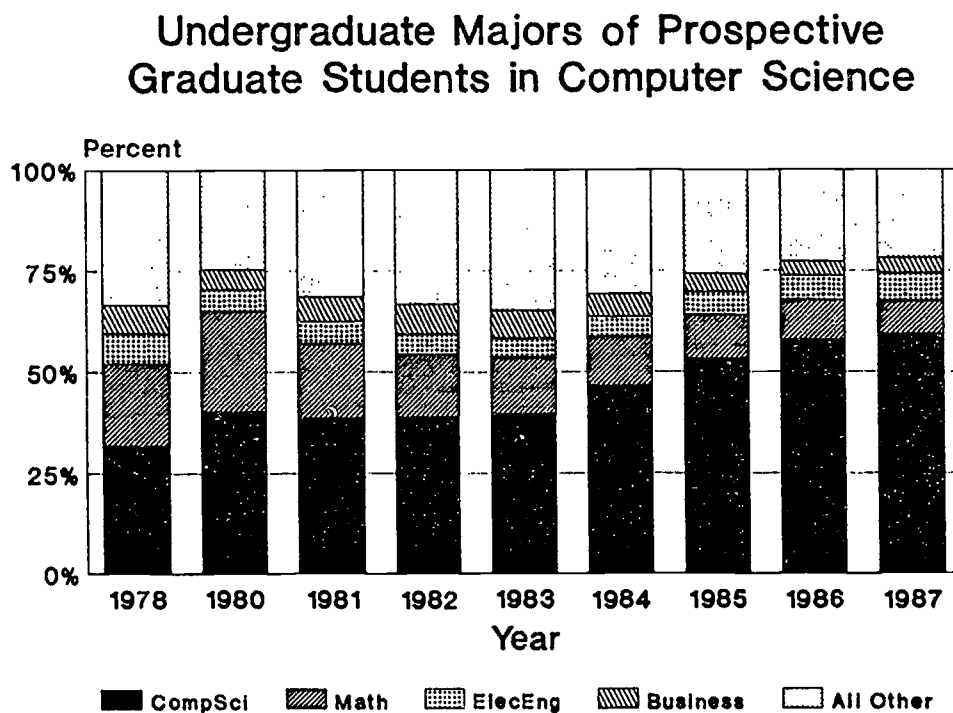
Throughout this report we have alluded to a number of ideas for further research. In this section we will briefly outline some of these suggestions. We welcome further ideas and encourage other researchers to explore these fields themselves.

RESEARCH ON INDIVIDUAL FIELDS OF STUDY

The current project was unable to deal with every major field. Persons in specific occupations will be interested in the flow of talent into and out of their fields. They may also be interested in the undergraduate majors that feed their graduate field and how those majors may be changing over time. This question would be of particular interest in the newer fields, such as computer science. Historically, most computer scientists studied either mathematics or electrical engineering; those interested in business programming applications often majored in business. Once computer science acquired its own identity, some students began majoring in computer science at the undergraduate level. To what extent did a shift to computer science as an undergraduate major occur?

As an example of the kind of analysis that would be informative, we generated a graph showing trends from 1978 to 1987 in the proportional undergraduate makeup of the body of examinees planning graduate study in computer science.

The following chart shows the proportional distribution of undergraduate major fields among examinees planning graduate work in computer science.



U.S. citizens only

Of those examinees planning graduate work in computer science, the proportion who did their undergraduate studies in computer science essentially doubled over the 10-year period, whereas the proportion with degrees in mathematics dropped sharply from 20% to just 8%.

electrical engineering and business continued to supply 10% to 15% of the students headed for computer science.

A study of this sort could proceed to show how test scores and other student characteristics were associated with the change in student composition and undergraduate preparation.

MODELS TO EXPLAIN TRENDS

The present study, to some extent, has been conducted in a vacuum, with very little attention given to social or economic conditions that might account for patterns or trends. We intentionally gave little interpretation to our observations because, in the absence of a well-constructed and comprehensive model, interpretations are mere speculation.

We might, for example, have examined parallels between numbers of examinees planning to study engineering and starting salaries in the engineering professions. If we had found such a parallel, we might have been inclined to assign a causal connection between them. What other reason would there be to look for that particular parallel? In actuality, growth in engineering is a complex issue deserving a model that includes many social and economic variables. Furthermore, such a study deserves the expertise of economists, engineers, and other specialists who can point to the many sources of influence on students' choices of engineering as a profession.

Any attempt to study the flow of talent into or out of a particular field will require specialized professional expertise and, in addition, a careful analysis of material released by the news media. An earlier study of students in the humanities (Grandy & Courtney, 1985) found numerous media reports on the rising cost of education, unemployability of humanities graduates, and declining quality of humanities majors. Some these reports distorted the facts and may have been written to create controversy. Their impact may even have been to drive students away from the humanities and subsequently to create a shortage.

Students' decisions regarding a field of study can rest only on the information they are able to access. A considerable amount of that information is first processed by the media. It becomes increasingly important that we, as researchers, separate the facts from the distorted reports in order to weight their relative impacts on student decision making.

STUDIES OF PARTICULAR SUBPOPULATIONS

The talent flow data base matrices generated on GRE General Test takers thus far are for all U.S. citizens, males, females, examinees planning to earn a doctorate, and examinees over age 30. Within these matrices there is minority information, statistics on parents' education, and other data. These, we assumed, would be the most sought after kinds of information.

We could easily generate matrices, however, for special populations. A study could compare each of the Hispanic populations, for example, or it could trace patterns in test scores and major field interests of Native Americans.

None of the existing matrices contain information about foreign examinees. Special matrices can be constructed from the individual examinee data base to compare talent flow among U.S. citizens, resident aliens, and all other test takers.

Generally when we speak of subpopulations, we tend to think of female and minority groups. Equally interesting might be analyses based on parents' education or other variables. We know that some major fields more than others still attract students from predominantly high (or low) socioeconomic levels. In the 1987 GRE data base, for example, 40% of the male examinees earning bachelor's degrees in chemistry had fathers with a graduate or professional degree. Only 15% of the males with degrees in education had fathers with a graduate or professional degree. These statistics can, of course, be broken down by ethnic group to see if it is father's education, more than ethnicity, that is related to major field choice.

Similarly, we can conduct studies of talent flow among older students (compared with younger ones) or among examinees who have been out of school for a while (compared with those who are currently enrolled). The latter study could have implications for talent flow among second-career populations.

These are only a few suggestions for further research on talent flow using the GRE data base. We hope that this study has served to introduce this data base and to provide direction to its research possibilities.

TABLE 1

TRENDS TABLE FOR U.S. CITIZENS TAKING THE GRE, TOTAL GROUP
MALES AND FEMALES

★

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| NUMBER OF EXAMINEES | 159907 | 171780 | 145944 | 128740 | 117777 | 118727 | 133636 | 141179 | 148841 |
| % OF TOTAL EXAMINEES | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| % WHO ARE FEMALE | 55.14 | 52.53 | 56.41 | 55.78 | 55.32 | 55.74 | 56.30 | 56.31 | 56.46 |
| % WHO ARE BLACK | 6.39 | 6.67 | 6.14 | 6.19 | 5.95 | 5.58 | 5.33 | 5.18 | 5.34 |
| % WHO ARE HISPANIC | 2.73 | 2.67 | 2.81 | 3.22 | 3.24 | 3.44 | 3.39 | 3.20 | 3.43 |
| % WHO ARE ASIAN AMERICAN | 1.60 | 1.48 | 1.73 | 1.89 | 1.94 | 2.14 | 2.28 | 2.53 | 2.78 |
| % PURSUING DOCTORATE | 37.02 | 38.47 | 37.15 | 37.96 | 37.41 | 38.15 | 37.21 | 38.62 | 39.13 |
| % OLDER THAN 30 | 15.09 | 24.01 | 21.02 | 22.18 | 22.60 | 23.99 | 25.31 | 27.02 | 27.79 |
| GRE VERBAL MEAN | 501 | 505 | 500 | 499 | 503 | 505 | 502 | 506 | 505 |
| GRE QUANTITATIVE MEAN | 515 | 516 | 517 | 522 | 530 | 529 | 527 | 533 | 531 |
| GRE ANALYTICAL MEAN | 521 | 515 | 524 | 520 | 528 | 536 | 538 | 542 | 541 |

★

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 70742 | 80520 | 62690 | 55635 | 52222 | 52028 | 57846 | 61175 | 64174 |
| % OF TOTAL EXAMINEES | 44.24 | 46.87 | 42.95 | 43.21 | 44.34 | 43.82 | 43.29 | 43.33 | 43.12 |
| % WHO ARE BLACK | 4.72 | 5.01 | 4.70 | 4.64 | 4.43 | 4.17 | 4.00 | 3.93 | 4.17 |
| % WHO ARE HISPANIC | 3.00 | 2.84 | 3.04 | 3.36 | 3.47 | 3.52 | 3.40 | 3.41 | 3.57 |
| % WHO ARE ASIAN AMERICAN | 1.85 | 1.61 | 1.94 | 2.24 | 2.33 | 2.55 | 2.79 | 3.05 | 3.43 |
| % PURSUING DOCTORATE | 44.34 | 46.39 | 44.14 | 43.99 | 42.94 | 44.03 | 43.20 | 44.30 | 44.76 |
| % OLDER THAN 30 | 11.79 | 22.27 | 17.88 | 18.74 | 19.22 | 20.91 | 21.37 | 23.27 | 23.86 |
| GRE VERBAL MEAN | 509 | 510 | 509 | 508 | 514 | 518 | 513 | 517 | 517 |
| GRE QUANTITATIVE MEAN | 559 | 557 | 563 | 568 | 577 | 577 | 577 | 581 | 580 |
| GRE ANALYTICAL MEAN | 533 | 526 | 537 | 531 | 540 | 556 | 556 | 559 | 558 |

★

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 88165 | 90234 | 82331 | 71801 | 65157 | 66183 | 75238 | 79500 | 84040 |
| % OF TOTAL EXAMINEES | 55.14 | 52.53 | 56.41 | 55.77 | 55.32 | 55.74 | 56.30 | 56.31 | 56.46 |
| % WHO ARE BLACK | 7.74 | 8.14 | 7.24 | 7.38 | 7.16 | 6.68 | 6.34 | 6.14 | 6.24 |
| % WHO ARE HISPANIC | 2.51 | 2.53 | 2.64 | 3.12 | 3.05 | 3.38 | 3.39 | 3.05 | 3.33 |
| % WHO ARE ASIAN AMERICAN | 1.40 | 1.38 | 1.57 | 1.62 | 1.64 | 1.83 | 1.90 | 2.14 | 2.30 |
| % PURSUING DOCTORATE | 31.14 | 31.38 | 31.85 | 33.31 | 32.98 | 33.53 | 32.63 | 34.26 | 34.85 |
| % OLDER THAN 30 | 17.66 | 25.45 | 23.31 | 24.73 | 25.24 | 26.33 | 28.26 | 29.88 | 30.56 |
| GRE VERBAL MEAN | 495 | 500 | 494 | 492 | 494 | 494 | 493 | 498 | 496 |
| GRE QUANTITATIVE MEAN | 479 | 480 | 482 | 486 | 492 | 491 | 489 | 496 | 495 |
| GRE ANALYTICAL MEAN | 511 | 504 | 514 | 512 | 519 | 520 | 523 | 528 | 528 |

★
DATA FOR 1979 NOT AVAILABLE

TABLE 2.1

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN ARTS/HUMANITIES
MALES AND FEMALES

*
YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 20293 | 22347 | 18621 | 16479 | 14688 | 14927 | 17184 | 18497 | 19649 |
| % OF TOTAL EXAMINEES | 12.69 | 13.01 | 12.76 | 12.80 | 12.47 | 12.57 | 12.86 | 13.10 | 13.20 |
| % WHO ARE FEMALE | 49.38 | 49.22 | 50.48 | 50.47 | 50.71 | 50.74 | 50.76 | 52.02 | 52.31 |
| % WHO ARE BLACK | 3.40 | 3.83 | 3.29 | 3.28 | 3.29 | 3.12 | 3.07 | 2.95 | 3.04 |
| % WHO ARE HISPANIC | 2.18 | 2.25 | 2.38 | 2.55 | 2.70 | 3.01 | 2.72 | 2.90 | 3.05 |
| % WHO ARE ASIAN AMERICAN | 1.31 | 1.15 | 1.21 | 1.38 | 1.45 | 1.64 | 1.68 | 1.57 | 1.82 |
| % PURSUING DOCTORATE | 37.99 | 40.97 | 37.54 | 38.29 | 39.96 | 41.12 | 40.25 | 42.79 | 44.64 |
| % OLDER THAN 30 | 11.60 | 19.13 | 17.30 | 18.52 | 19.98 | 21.16 | 22.74 | 24.76 | 24.67 |
| GRE VERBAL MEAN | 540 | 546 | 534 | 532 | 540 | 541 | 539 | 546 | 548 |
| GRE QUANTITATIVE MEAN | 506 | 506 | 505 | 510 | 514 | 514 | 511 | 514 | 516 |
| GRE ANALYTICAL MEAN | 533 | 528 | 533 | 527 | 532 | 542 | 542 | 547 | 549 |

*
YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10146 | 11237 | 9117 | 8005 | 7188 | 7295 | 8395 | 8803 | 9290 |
| % OF TOTAL EXAMINEES | 6.34 | 6.54 | 6.25 | 6.22 | 6.10 | 6.14 | 6.28 | 6.24 | 6.24 |
| % WHO ARE BLACK | 2.89 | 3.33 | 3.33 | 3.05 | 3.44 | 3.06 | 3.10 | 2.76 | 3.04 |
| % WHO ARE HISPANIC | 2.17 | 2.27 | 2.23 | 2.22 | 2.66 | 2.77 | 2.60 | 2.93 | 2.94 |
| % WHO ARE ASIAN AMERICAN | 1.19 | 0.93 | 0.98 | 1.27 | 1.28 | 1.59 | 1.49 | 1.36 | 1.53 |
| % PURSUING DOCTORATE | 41.20 | 44.04 | 40.00 | 40.61 | 41.35 | 41.45 | 41.91 | 44.79 | 45.94 |
| % OLDER THAN 30 | 9.26 | 18.62 | 15.60 | 16.54 | 18.59 | 20.10 | 21.29 | 23.83 | 23.48 |
| GRE VERBAL MEAN | 538 | 542 | 532 | 530 | 536 | 539 | 537 | 543 | 545 |
| GRE QUANTITATIVE MEAN | 531 | 530 | 529 | 536 | 537 | 539 | 537 | 538 | 539 |
| GRE ANALYTICAL MEAN | 535 | 530 | 534 | 527 | 531 | 547 | 546 | 550 | 550 |

*
YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10018 | 10999 | 9400 | 8321 | 7448 | 7574 | 8722 | 9622 | 10279 |
| % OF TOTAL EXAMINEES | 6.26 | 6.40 | 6.44 | 6.46 | 6.32 | 6.38 | 6.53 | 6.82 | 6.91 |
| % WHO ARE BLACK | 3.94 | 4.35 | 3.26 | 3.58 | 3.14 | 3.16 | 3.05 | 3.12 | 3.03 |
| % WHO ARE HISPANIC | 2.19 | 2.23 | 2.53 | 2.94 | 2.73 | 3.25 | 2.85 | 2.88 | 3.18 |
| % WHO ARE ASIAN AMERICAN | 1.42 | 1.40 | 1.44 | 1.49 | 1.61 | 1.70 | 1.87 | 1.76 | 2.09 |
| % PURSUING DOCTORATE | 34.78 | 37.89 | 35.22 | 35.89 | 38.57 | 40.88 | 38.70 | 41.00 | 43.51 |
| % OLDER THAN 30 | 13.88 | 19.58 | 18.94 | 20.26 | 21.21 | 22.09 | 24.06 | 25.62 | 25.62 |
| GRE VERBAL MEAN | 543 | 549 | 536 | 534 | 545 | 542 | 542 | 547 | 551 |
| GRE QUANTITATIVE MEAN | 480 | 481 | 482 | 485 | 491 | 490 | 487 | 493 | 496 |
| GRE ANALYTICAL MEAN | 532 | 525 | 532 | 527 | 534 | 537 | 539 | 544 | 548 |

* DATA FOR 1979 NOT AVAILABLE

TABLE 2.2

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN PHYSICAL SCIENCES OR MATH

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 12400 | 12096 | 12261 | 12548 | 13549 | 13256 | 14187 | 14693 | 14592 |
| % OF TOTAL EXAMINEES | 7.75 | 7.04 | 8.40 | 9.75 | 11.50 | 11.17 | 10.62 | 10.41 | 9.80 |
| % WHO ARE FEMALE | 26.57 | 24.93 | 29.57 | 29.96 | 29.32 | 30.13 | 30.70 | 30.52 | 29.24 |
| % WHO ARE BLACK | 3.07 | 3.23 | 3.20 | 3.35 | 3.47 | 3.39 | 3.43 | 3.80 | 3.95 |
| % WHO ARE HISPANIC | 2.15 | 1.47 | 2.17 | 2.23 | 2.67 | 2.68 | 2.62 | 2.34 | 2.88 |
| % WHO ARE ASIAN AMERICAN | 2.39 | 2.08 | 2.66 | 2.78 | 2.89 | 3.18 | 3.93 | 4.40 | 4.73 |
| % PURSUING DOCTORATE | 47.10 | 51.58 | 44.54 | 42.65 | 41.93 | 43.93 | 44.56 | 45.83 | 47.80 |
| % OLDER THAN 30 | 6.03 | 11.90 | 10.11 | 11.84 | 12.42 | 13.60 | 14.10 | 15.29 | 16.18 |
| GRE VERBAL MEAN | 531 | 536 | 533 | 528 | 532 | 535 | 529 | 532 | 532 |
| GRE QUANTITATIVE MEAN | 643 | 652 | 639 | 636 | 638 | 641 | 644 | 649 | 652 |
| GRE ANALYTICAL MEAN | 584 | 583 | 585 | 584 | 586 | 603 | 606 | 610 | 612 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 9030 | 9024 | 8562 | 8685 | 9531 | 9200 | 9788 | 10152 | 10272 |
| % OF TOTAL EXAMINEES | 5.65 | 5.25 | 5.87 | 6.75 | 8.09 | 7.75 | 7.32 | 7.19 | 6.90 |
| % WHO ARE BLACK | 2.46 | 2.36 | 2.42 | 2.39 | 2.42 | 2.50 | 2.74 | 2.65 | 2.73 |
| % WHO ARE HISPANIC | 1.88 | 1.27 | 2.08 | 2.14 | 2.65 | 2.42 | 2.42 | 2.24 | 2.82 |
| % WHO ARE ASIAN AMERICAN | 2.17 | 1.88 | 2.38 | 2.53 | 2.71 | 2.85 | 3.64 | 3.78 | 4.31 |
| % PURSUING DOCTORATE | 50.35 | 54.99 | 48.25 | 45.62 | 44.91 | 47.05 | 47.91 | 49.17 | 50.60 |
| % OLDER THAN 30 | 5.94 | 12.28 | 9.78 | 11.50 | 12.10 | 13.21 | 13.75 | 15.02 | 16.32 |
| GRE VERBAL MEAN | 532 | 538 | 536 | 531 | 536 | 539 | 533 | 537 | 538 |
| GRE QUANTITATIVE MEAN | 654 | 663 | 651 | 648 | 649 | 653 | 656 | 661 | 663 |
| GRE ANALYTICAL MEAN | 584 | 583 | 587 | 582 | 584 | 605 | 607 | 611 | 613 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 3295 | 3015 | 3626 | 3758 | 3972 | 3994 | 4355 | 4485 | 4267 |
| % OF TOTAL EXAMINEES | 2.06 | 1.76 | 2.48 | 2.92 | 3.37 | 3.36 | 3.26 | 3.18 | 2.87 |
| % WHO ARE BLACK | 4.76 | 5.77 | 5.10 | 5.64 | 5.99 | 5.33 | 4.91 | 6.35 | 6.80 |
| % WHO ARE HISPANIC | 2.91 | 2.09 | 2.40 | 2.42 | 2.67 | 3.30 | 3.08 | 2.61 | 2.95 |
| % WHO ARE ASIAN AMERICAN | 3.00 | 2.65 | 3.28 | 3.35 | 3.32 | 3.98 | 4.57 | 5.84 | 5.72 |
| % PURSUING DOCTORATE | 37.94 | 41.23 | 35.63 | 35.79 | 34.92 | 36.65 | 37.15 | 38.46 | 41.11 |
| % OLDER THAN 30 | 6.19 | 10.52 | 10.87 | 12.48 | 13.07 | 14.42 | 14.84 | 15.86 | 15.77 |
| GRE VERBAL MEAN | 526 | 530 | 524 | 522 | 522 | 525 | 520 | 519 | 518 |
| GRE QUANTITATIVE MEAN | 613 | 621 | 609 | 607 | 609 | 615 | 619 | 623 | 626 |
| GRE ANALYTICAL MEAN | 584 | 582 | 580 | 588 | 590 | 600 | 604 | 605 | 610 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 2.3

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN ENGINEERING

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7344 | 6956 | 7555 | 7793 | 8467 | 8929 | 10213 | 11618 | 12102 |
| % OF TOTAL EXAMINEES | 4.59 | 4.05 | 5.18 | 6.05 | 7.19 | 7.52 | 7.64 | 8.23 | 8.13 |
| % WHO ARE FEMALE | 13.85 | 11.49 | 14.41 | 16.30 | 16.85 | 16.88 | 16.96 | 18.39 | 17.90 |
| % WHO ARE BLACK | 2.76 | 2.92 | 3.49 | 3.62 | 3.04 | 3.64 | 3.32 | 3.25 | 3.98 |
| % WHO ARE HISPANIC | 3.35 | 3.12 | 3.18 | 3.35 | 3.46 | 3.39 | 3.67 | 3.89 | 4.06 |
| % WHO ARE ASIAN AMERICAN | 5.41 | 4.72 | 5.29 | 6.54 | 5.86 | 6.65 | 6.87 | 8.00 | 9.11 |
| % PURSUING DOCTORATE | 26.66 | 28.88 | 28.34 | 28.76 | 29.01 | 29.60 | 28.96 | 28.10 | 28.21 |
| % OLDER THAN 30 | 5.12 | 12.99 | 7.82 | 8.30 | 8.43 | 10.02 | 9.47 | 10.62 | 11.17 |
| GRE VERBAL MEAN | 517 | 517 | 515 | 514 | 524 | 522 | 515 | 516 | 512 |
| GRE QUANTITATIVE MEAN | 673 | 671 | 670 | 670 | 675 | 675 | 677 | 679 | 677 |
| GRE ANALYTICAL MEAN | 586 | 579 | 587 | 587 | 595 | 610 | 609 | 610 | 607 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 6292 | 6118 | 6414 | 6461 | 7020 | 7380 | 8444 | 9455 | 9891 |
| % OF TOTAL EXAMINEES | 3.93 | 3.56 | 4.39 | 5.02 | 5.96 | 6.22 | 6.32 | 6.70 | 6.65 |
| % WHO ARE BLACK | 2.40 | 2.48 | 3.16 | 3.23 | 2.55 | 3.09 | 2.59 | 2.76 | 3.20 |
| % WHO ARE HISPANIC | 3.46 | 3.17 | 3.32 | 3.47 | 3.60 | 3.29 | 3.61 | 3.69 | 4.01 |
| % WHO ARE ASIAN AMERICAN | 5.18 | 4.76 | 4.96 | 6.33 | 5.70 | 6.54 | 6.69 | 7.70 | 8.97 |
| % PURSUING DOCTORATE | 26.56 | 28.95 | 28.52 | 28.83 | 28.76 | 29.88 | 28.87 | 28.59 | 28.58 |
| % OLDER THAN 30 | 5.43 | 13.61 | 8.41 | 9.05 | 9.04 | 10.62 | 10.14 | 10.99 | 11.87 |
| GRE VERBAL MEAN | 513 | 514 | 512 | 511 | 521 | 520 | 513 | 515 | 511 |
| GRE QUANTITATIVE MEAN | 676 | 676 | 673 | 674 | 679 | 678 | 681 | 684 | 682 |
| GRE ANALYTICAL MEAN | 584 | 578 | 584 | 581 | 590 | 606 | 606 | 606 | 604 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1017 | 799 | 1089 | 1270 | 1427 | 1507 | 1732 | 2137 | 2166 |
| % OF TOTAL EXAMINEES | 0.64 | 0.47 | 0.75 | 0.99 | 1.21 | 1.27 | 1.30 | 1.51 | 1.46 |
| % WHO ARE BLACK | 5.01 | 6.26 | 5.51 | 5.67 | 5.40 | 6.30 | 6.76 | 5.38 | 7.57 |
| % WHO ARE HISPANIC | 2.65 | 2.75 | 2.39 | 2.60 | 2.80 | 3.72 | 3.93 | 4.82 | 4.34 |
| % WHO ARE ASIAN AMERICAN | 6.88 | 4.38 | 7.44 | 7.56 | 6.73 | 7.23 | 7.91 | 9.36 | 9.83 |
| % PURSUING DOCTORATE | 27.43 | 28.29 | 27.00 | 28.27 | 30.06 | 28.53 | 29.10 | 25.97 | 26.32 |
| % OLDER THAN 30 | 3.08 | 7.48 | 4.07 | 4.61 | 5.57 | 6.96 | 6.06 | 8.88 | 7.96 |
| GRE VERBAL MEAN | 537 | 544 | 531 | 529 | 536 | 535 | 525 | 519 | 517 |
| GRE QUANTITATIVE MEAN | 655 | 633 | 650 | 648 | 658 | 658 | 660 | 657 | 658 |
| GRE ANALYTICAL MEAN | 602 | 586 | 605 | 615 | 619 | 628 | 624 | 623 | 624 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 2.4

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN BIOLOGICAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 11017 | 13287 | 9929 | 8828 | 6811 | 6621 | 7325 | 7610 | 7852 |
| % OF TOTAL EXAMINEES | 6.89 | 7.73 | 6.80 | 6.86 | 5.78 | 5.58 | 5.48 | 5.39 | 5.28 |
| % WHO ARE FEMALE | 45.89 | 40.84 | 47.48 | 49.17 | 48.44 | 51.17 | 49.62 | 50.55 | 50.43 |
| % WHO ARE BLACK | 3.58 | 3.43 | 3.73 | 4.03 | 4.11 | 4.36 | 4.14 | 3.73 | 3.64 |
| % WHO ARE HISPANIC | 2.73 | 2.52 | 3.01 | 3.65 | 3.71 | 4.59 | 3.55 | 4.22 | 4.36 |
| % WHO ARE ASIAN AMERICAN | 2.37 | 2.14 | 2.29 | 2.25 | 2.73 | 2.95 | 3.14 | 3.76 | 4.09 |
| % PURSUING DOCTORATE | 56.33 | 58.51 | 56.06 | 56.29 | 58.41 | 58.41 | 59.43 | 61.37 | 60.49 |
| % OLDER THAN 30 | 4.72 | 9.50 | 7.24 | 8.54 | 8.85 | 10.69 | 10.22 | 11.54 | 11.91 |
| GRE VERBAL MEAN | 523 | 526 | 520 | 521 | 520 | 519 | 520 | 521 | 518 |
| GRE QUANTITATIVE MEAN | 572 | 576 | 572 | 573 | 581 | 575 | 580 | 580 | 578 |
| GRE ANALYTICAL MEAN | 560 | 553 | 558 | 556 | 564 | 569 | 575 | 576 | 575 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5897 | 7778 | 5161 | 4389 | 3498 | 3216 | 3666 | 3733 | 3855 |
| % OF TOTAL EXAMINEES | 3.69 | 4.53 | 3.54 | 3.41 | 2.97 | 2.71 | 2.74 | 2.64 | 2.59 |
| % WHO ARE BLACK | 2.65 | 2.56 | 2.83 | 3.01 | 3.26 | 3.36 | 3.19 | 3.27 | 2.88 |
| % WHO ARE HISPANIC | 2.66 | 2.38 | 2.77 | 3.62 | 3.66 | 4.23 | 3.46 | 4.10 | 4.31 |
| % WHO ARE ASIAN AMERICAN | 2.19 | 2.13 | 2.29 | 2.21 | 2.72 | 2.74 | 3.44 | 3.91 | 4.10 |
| % PURSUING DOCTORATE | 60.45 | 61.80 | 61.25 | 61.56 | 62.52 | 63.53 | 63.64 | 64.80 | 64.80 |
| % OLDER THAN 30 | 3.63 | 8.89 | 6.39 | 7.72 | 8.35 | 10.62 | 9.54 | 11.25 | 11.36 |
| GRE VERBAL MEAN | 519 | 519 | 520 | 519 | 519 | 520 | 519 | 521 | 521 |
| GRE QUANTITATIVE MEAN | 589 | 590 | 590 | 591 | 595 | 592 | 597 | 594 | 596 |
| GRE ANALYTICAL MEAN | 558 | 549 | 557 | 548 | 556 | 569 | 573 | 572 | 574 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5062 | 5426 | 4714 | 4340 | 3299 | 3388 | 3635 | 3847 | 3960 |
| % OF TOTAL EXAMINEES | 3.17 | 3.16 | 3.23 | 3.37 | 2.80 | 2.85 | 2.72 | 2.72 | 2.66 |
| % WHO ARE BLACK | 4.62 | 4.64 | 4.71 | 4.86 | 5.03 | 5.34 | 5.03 | 4.19 | 4.42 |
| % WHO ARE HISPANIC | 2.77 | 2.76 | 3.29 | 3.62 | 3.79 | 4.96 | 3.66 | 4.37 | 4.42 |
| % WHO ARE ASIAN AMERICAN | 2.55 | 2.19 | 2.27 | 2.30 | 2.76 | 3.16 | 2.86 | 3.59 | 4.09 |
| % PURSUING DOCTORATE | 51.40 | 53.63 | 50.49 | 51.11 | 53.96 | 53.51 | 55.24 | 57.97 | 56.16 |
| % OLDER THAN 30 | 5.92 | 10.34 | 8.13 | 9.32 | 9.30 | 10.77 | 10.87 | 11.78 | 12.41 |
| GRE VERBAL MEAN | 528 | 536 | 520 | 524 | 521 | 518 | 521 | 522 | 515 |
| GRE QUANTITATIVE MEAN | 552 | 556 | 553 | 555 | 565 | 559 | 563 | 566 | 560 |
| GRE ANALYTICAL MEAN | 563 | 557 | 560 | 564 | 573 | 568 | 579 | 580 | 577 |

★ DATA FOR 1979 NOT AVAILABLE

TABLE 2.5

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN APPLIED BIOLOGICAL/ENVIRONMENTAL SCIENCE

MALES AND FEMALES

*

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 2634 | 2762 | 2399 | 2114 | 2674 | 2754 | 2898 | 3129 | 3006 |
| % OF TOTAL EXAMINEES | 1.65 | 1.61 | 1.64 | 1.64 | 2.27 | 2.32 | 2.17 | 2.22 | 2.02 |
| % WHO ARE FEMALE | 29.73 | 24.95 | 31.97 | 29.90 | 38.29 | 36.71 | 36.89 | 36.66 | 37.33 |
| % WHO ARE BLACK | 1.71 | 1.88 | 2.17 | 2.03 | 1.91 | 2.25 | 1.52 | 1.98 | 2.10 |
| % WHO ARE HISPANIC | 2.39 | 2.06 | 2.33 | 2.18 | 2.66 | 2.51 | 2.76 | 2.17 | 2.50 |
| % WHO ARE ASIAN AMERICAN | 0.95 | 1.16 | 1.00 | 0.90 | 1.16 | 0.84 | 0.79 | 1.34 | 1.10 |
| % PURSUING DOCTORATE | 29.50 | 30.49 | 30.39 | 27.53 | 29.32 | 35.51 | 34.23 | 33.75 | 36.09 |
| % OLDER THAN 30 | 5.63 | 12.67 | 9.25 | 9.77 | 11.25 | 13.19 | 13.23 | 17.20 | 17.38 |
| GRE VERBAL MEAN | 491 | 487 | 486 | 487 | 498 | 508 | 500 | 501 | 506 |
| GRE QUANTITATIVE MEAN | 552 | 549 | 550 | 552 | 559 | 558 | 556 | 556 | 561 |
| GRE ANALYTICAL MEAN | 537 | 525 | 532 | 531 | 544 | 556 | 555 | 555 | 558 |

MALES ONLY

*

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1834 | 2055 | 1616 | 1456 | 1645 | 1735 | 1818 | 1971 | 1874 |
| % OF TOTAL EXAMINEES | 1.15 | 1.20 | 1.11 | 1.13 | 1.40 | 1.46 | 1.36 | 1.40 | 1.26 |
| % WHO ARE BLACK | 1.69 | 2.00 | 2.35 | 1.85 | 1.76 | 2.48 | 1.60 | 2.18 | 1.76 |
| % WHO ARE HISPANIC | 2.67 | 2.29 | 2.54 | 2.13 | 3.34 | 2.59 | 3.14 | 2.28 | 2.13 |
| % WHO ARE ASIAN AMERICAN | 0.60 | 1.12 | 1.05 | 0.76 | 0.97 | 0.63 | 0.66 | 1.27 | 0.80 |
| % PURSUING DOCTORATE | 30.53 | 31.29 | 30.26 | 29.05 | 31.19 | 37.69 | 36.63 | 33.74 | 36.87 |
| % OLDER THAN 30 | 6.16 | 14.93 | 10.75 | 11.67 | 13.89 | 14.85 | 15.46 | 19.38 | 17.99 |
| GRE VERBAL MEAN | 480 | 477 | 477 | 478 | 487 | 501 | 490 | 491 | 498 |
| GRE QUANTITATIVE MEAN | 557 | 554 | 555 | 556 | 564 | 566 | 562 | 561 | 567 |
| GRE ANALYTICAL MEAN | 529 | 517 | 523 | 519 | 531 | 549 | 545 | 544 | 550 |

FEMALES ONLY

*

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 781 | 689 | 767 | 628 | 1024 | 1011 | 1069 | 1147 | 1122 |
| % OF TOTAL EXAMINEES | 0.49 | 0.40 | 0.53 | 0.49 | 0.87 | 0.85 | 0.80 | 0.81 | 0.75 |
| % WHO ARE BLACK | 1.54 | 1.60 | 1.83 | 2.39 | 2.15 | 1.88 | 1.40 | 1.66 | 2.67 |
| % WHO ARE HISPANIC | 1.79 | 1.45 | 1.96 | 2.23 | 1.56 | 2.37 | 2.15 | 2.01 | 3.12 |
| % WHO ARE ASIAN AMERICAN | 1.66 | 1.31 | 0.91 | 1.27 | 1.46 | 1.19 | 0.94 | 1.48 | 1.60 |
| % PURSUING DOCTORATE | 27.27 | 28.30 | 30.77 | 25.80 | 26.46 | 31.75 | 30.12 | 33.91 | 34.85 |
| % OLDER THAN 30 | 4.25 | 5.86 | 5.64 | 5.29 | 7.07 | 10.36 | 9.40 | 13.46 | 16.17 |
| GRE VERBAL MEAN | 517 | 516 | 506 | 508 | 516 | 520 | 516 | 519 | 519 |
| GRE QUANTITATIVE MEAN | 540 | 533 | 540 | 543 | 552 | 546 | 546 | 547 | 550 |
| GRE ANALYTICAL MEAN | 557 | 547 | 552 | 559 | 564 | 568 | 571 | 573 | 572 |

*

DATA FOR 1979 NOT AVAILABLE

TABLE 2.6

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN SOCIAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 29402 | 32035 | 27531 | 24469 | 20953 | 21798 | 24331 | 25996 | 28347 |
| % OF TOTAL EXAMINEES | 18.39 | 18.65 | 18.86 | 19.01 | 17.79 | 18.36 | 18.21 | 18.41 | 19.05 |
| % WHO ARE FEMALE | 51.68 | 47.76 | 54.38 | 55.69 | 55.60 | 55.76 | 56.36 | 56.45 | 56.42 |
| % WHO ARE BLACK | 7.07 | 7.00 | 6.64 | 6.72 | 6.80 | 6.19 | 5.48 | 5.24 | 5.13 |
| % WHO ARE HISPANIC | 3.10 | 3.26 | 3.21 | 3.51 | 3.61 | 3.98 | 3.86 | 3.66 | 3.65 |
| % WHO ARE ASIAN AMERICAN | 1.26 | 1.22 | 1.50 | 1.56 | 1.66 | 1.72 | 1.78 | 1.76 | 1.81 |
| % PURSUING DOCTORATE | 60.72 | 61.24 | 60.47 | 61.95 | 61.89 | 63.04 | 61.47 | 63.16 | 63.32 |
| % OLDER THAN 30 | 12.51 | 21.14 | 18.06 | 19.47 | 19.95 | 20.99 | 21.23 | 22.88 | 23.06 |
| GRE VERBAL MEAN | 521 | 527 | 520 | 516 | 522 | 522 | 518 | 525 | 523 |
| GRE QUANTITATIVE MEAN | 508 | 512 | 510 | 511 | 516 | 514 | 513 | 519 | 519 |
| GRE ANALYTICAL MEAN | 531 | 526 | 535 | 522 | 530 | 536 | 539 | 544 | 544 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 14035 | 16535 | 12402 | 10623 | 9233 | 9547 | 10525 | 11240 | 12235 |
| % OF TOTAL EXAMINEES | 8.78 | 9.63 | 8.50 | 8.25 | 7.84 | 8.04 | 7.88 | 7.96 | 8.22 |
| % WHO ARE BLACK | 5.17 | 5.62 | 5.35 | 5.61 | 5.51 | 4.52 | 4.45 | 4.35 | 4.34 |
| % WHO ARE HISPANIC | 3.40 | 3.46 | 3.38 | 3.77 | 3.86 | 4.37 | 3.82 | 3.94 | 3.72 |
| % WHO ARE ASIAN AMERICAN | 1.35 | 1.20 | 1.53 | 1.55 | 1.82 | 1.56 | 1.72 | 1.66 | 1.76 |
| % PURSUING DOCTORATE | 62.74 | 63.09 | 61.51 | 62.50 | 61.28 | 62.90 | 60.46 | 62.62 | 62.58 |
| % OLDER THAN 30 | 10.55 | 21.09 | 16.80 | 17.90 | 18.86 | 20.06 | 20.44 | 22.68 | 22.59 |
| GRE VERBAL MEAN | 525 | 527 | 524 | 520 | 528 | 533 | 526 | 534 | 533 |
| GRE QUANTITATIVE MEAN | 535 | 533 | 537 | 537 | 544 | 543 | 541 | 546 | 544 |
| GRE ANALYTICAL MEAN | 534 | 527 | 538 | 521 | 531 | 544 | 544 | 549 | 548 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 15196 | 15301 | 14970 | 13627 | 11650 | 12155 | 13714 | 14674 | 15994 |
| % OF TOTAL EXAMINEES | 9.50 | 8.91 | 10.26 | 10.58 | 9.89 | 10.24 | 10.26 | 10.39 | 10.75 |
| % WHO ARE BLACK | 8.83 | 8.48 | 7.66 | 7.60 | 7.78 | 7.49 | 6.27 | 5.94 | 5.75 |
| % WHO ARE HISPANIC | 2.81 | 3.05 | 3.10 | 3.32 | 3.43 | 3.68 | 3.89 | 3.46 | 3.59 |
| % WHO ARE ASIAN AMERICAN | 1.18 | 1.25 | 1.50 | 1.58 | 1.52 | 1.84 | 1.84 | 1.84 | 1.86 |
| % PURSUING DOCTORATE | 58.87 | 59.23 | 59.59 | 61.60 | 62.38 | 63.09 | 62.24 | 63.57 | 63.91 |
| % OLDER THAN 30 | 14.23 | 21.08 | 19.03 | 20.59 | 20.73 | 21.66 | 21.79 | 23.01 | 23.34 |
| GRE VERBAL MEAN | 518 | 527 | 516 | 512 | 517 | 514 | 512 | 518 | 516 |
| GRE QUANTITATIVE MEAN | 485 | 488 | 488 | 491 | 494 | 492 | 491 | 498 | 499 |
| GRE ANALYTICAL MEAN | 529 | 526 | 533 | 522 | 530 | 529 | 534 | 541 | 542 |

* DATA FOR 1979 NOT AVAILABLE

TABLE 2.7

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN APPLIED SOCIAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10851 | 11952 | 9831 | 8177 | 7214 | 7116 | 8154 | 8714 | 9280 |
| % OF TOTAL EXAMINEES | 6.79 | 6.96 | 6.74 | 6.35 | 6.13 | 5.99 | 6.10 | 6.17 | 6.23 |
| % WHO ARE FEMALE | 73.37 | 71.95 | 74.92 | 73.54 | 73.81 | 74.59 | 73.83 | 74.41 | 73.43 |
| % WHO ARE BLACK | 8.95 | 8.79 | 9.02 | 9.40 | 9.63 | 9.15 | 7.52 | 7.87 | 7.79 |
| % WHO ARE HISPANIC | 2.76 | 2.59 | 2.54 | 3.27 | 3.41 | 3.58 | 3.80 | 3.06 | 3.53 |
| % WHO ARE ASIAN AMERICAN | 1.13 | 1.19 | 1.22 | 1.16 | 1.10 | 1.41 | 1.24 | 1.58 | 1.86 |
| % PURSUING DOCTORATE | 14.39 | 15.33 | 15.24 | 15.09 | 14.51 | 15.51 | 14.78 | 15.25 | 15.83 |
| % OLDER THAN 30 | 16.54 | 26.26 | 24.07 | 24.41 | 26.71 | 28.25 | 31.22 | 33.37 | 33.67 |
| GRE VERBAL MEAN | 501 | 509 | 499 | 492 | 497 | 496 | 499 | 500 | 497 |
| GRE QUANTITATIVE MEAN | 461 | 466 | 460 | 460 | 463 | 460 | 462 | 463 | 464 |
| GRE ANALYTICAL MEAN | 501 | 497 | 501 | 491 | 496 | 499 | 504 | 504 | 503 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 2827 | 3283 | 2408 | 2092 | 1866 | 1780 | 2097 | 2203 | 2423 |
| % OF TOTAL EXAMINEES | 1.77 | 1.91 | 1.65 | 1.62 | 1.58 | 1.50 | 1.57 | 1.56 | 1.63 |
| % WHO ARE BLACK | 7.36 | 7.68 | 8.14 | 8.03 | 7.88 | 7.92 | 5.58 | 5.99 | 6.19 |
| % WHO ARE HISPANIC | 3.61 | 3.44 | 3.24 | 3.49 | 3.70 | 3.43 | 3.53 | 2.95 | 3.80 |
| % WHO ARE ASIAN AMERICAN | 1.27 | 0.91 | 1.20 | 1.24 | 1.07 | 1.07 | 1.24 | 1.50 | 2.06 |
| % PURSUING DOCTORATE | 19.24 | 22.05 | 22.67 | 21.03 | 20.74 | 21.29 | 20.51 | 20.47 | 21.05 |
| % OLDER THAN 30 | 13.12 | 26.78 | 23.33 | 23.03 | 23.87 | 28.60 | 31.31 | 33.18 | 33.33 |
| GRE VERBAL MEAN | 513 | 515 | 511 | 507 | 515 | 513 | 513 | 513 | 512 |
| GRE QUANTITATIVE MEAN | 493 | 496 | 495 | 498 | 507 | 499 | 496 | 495 | 500 |
| GRE ANALYTICAL MEAN | 506 | 502 | 507 | 495 | 503 | 510 | 511 | 511 | 512 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7961 | 8599 | 7365 | 6013 | 5325 | 5308 | 6020 | 6484 | 6814 |
| % OF TOTAL EXAMINEES | 4.98 | 5.01 | 5.05 | 4.67 | 4.52 | 4.47 | 4.50 | 4.59 | 4.58 |
| % WHO ARE BLACK | 9.51 | 9.20 | 9.30 | 9.86 | 10.29 | 9.53 | 8.17 | 8.54 | 8.37 |
| % WHO ARE HISPANIC | 2.46 | 2.27 | 2.34 | 3.19 | 3.29 | 3.62 | 3.90 | 3.08 | 3.45 |
| % WHO ARE ASIAN AMERICAN | 1.08 | 1.28 | 1.22 | 1.13 | 1.09 | 1.53 | 1.25 | 1.62 | 1.81 |
| % PURSUING DOCTORATE | 12.64 | 12.76 | 12.83 | 13.04 | 12.26 | 13.56 | 12.76 | 13.51 | 14.04 |
| % OLDER THAN 30 | 17.63 | 26.05 | 24.29 | 24.73 | 27.61 | 28.10 | 31.07 | 33.42 | 33.73 |
| GRE VERBAL MEAN | 497 | 507 | 495 | 487 | 490 | 490 | 494 | 496 | 491 |
| GRE QUANTITATIVE MEAN | 450 | 454 | 449 | 446 | 447 | 447 | 450 | 452 | 451 |
| GRE ANALYTICAL MEAN | 499 | 495 | 500 | 489 | 493 | 495 | 502 | 502 | 500 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 2.8

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN HEALTH SCIENCES/SERVICE

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 16536 | 16515 | 15156 | 13737 | 12393 | 12027 | 13503 | 13582 | 14057 |
| % OF TOTAL EXAMINEES | 10.34 | 9.61 | 10.38 | 10.67 | 10.52 | 10.13 | 10.10 | 9.62 | 9.44 |
| % WHO ARE FEMALE | 75.71 | 71.95 | 77.84 | 78.10 | 78.60 | 79.57 | 79.42 | 79.83 | 79.98 |
| % WHO ARE BLACK | 4.74 | 4.90 | 4.80 | 4.49 | 4.83 | 4.45 | 4.38 | 4.28 | 4.25 |
| % WHO ARE HISPANIC | 1.90 | 1.70 | 1.79 | 2.00 | 2.28 | 2.53 | 2.32 | 2.33 | 2.34 |
| % WHO ARE ASIAN AMERICAN | 1.67 | 1.77 | 1.89 | 1.74 | 1.66 | 1.85 | 1.99 | 2.22 | 2.46 |
| % PURSUING DOCTORATE | 35.92 | 36.48 | 35.07 | 34.02 | 32.41 | 30.86 | 30.94 | 32.17 | 32.43 |
| % OLDER THAN 30 | 14.01 | 21.27 | 19.61 | 22.53 | 24.93 | 26.60 | 28.28 | 30.39 | 31.76 |
| GRE VERBAL MEAN | 493 | 495 | 490 | 489 | 486 | 488 | 488 | 487 | 483 |
| GRE QUANTITATIVE MEAN | 509 | 514 | 511 | 512 | 514 | 510 | 511 | 513 | 509 |
| GRE ANALYTICAL MEAN | 521 | 513 | 523 | 518 | 524 | 524 | 530 | 531 | 528 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 3922 | 4534 | 3265 | 2873 | 2602 | 2409 | 2724 | 2696 | 2761 |
| % OF TOTAL EXAMINEES | 2.45 | 2.64 | 2.24 | 2.23 | 2.21 | 2.03 | 2.04 | 1.91 | 1.85 |
| % WHO ARE BLACK | 3.49 | 3.75 | 3.43 | 3.48 | 3.46 | 3.20 | 3.23 | 3.60 | 2.83 |
| % WHO ARE HISPANIC | 3.14 | 2.18 | 2.60 | 3.38 | 3.50 | 4.03 | 4.19 | 4.04 | 3.66 |
| % WHO ARE ASIAN AMERICAN | 2.55 | 2.29 | 2.57 | 2.71 | 2.15 | 2.78 | 3.23 | 2.78 | 3.44 |
| % PURSUING DOCTORATE | 63.49 | 63.74 | 65.33 | 63.97 | 58.22 | 58.53 | 56.53 | 54.78 | 53.75 |
| % OLDER THAN 30 | 7.08 | 13.58 | 11.58 | 14.65 | 16.06 | 17.30 | 18.36 | 20.04 | 19.91 |
| GRE VERBAL MEAN | 498 | 495 | 495 | 496 | 498 | 501 | 494 | 494 | 494 |
| GRE QUANTITATIVE MEAN | 569 | 572 | 577 | 576 | 583 | 575 | 570 | 573 | 570 |
| GRE ANALYTICAL MEAN | 535 | 527 | 540 | 533 | 540 | 549 | 550 | 551 | 547 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 12516 | 11883 | 11797 | 10724 | 9741 | 9570 | 10724 | 10843 | 11243 |
| % OF TOTAL EXAMINEES | 7.83 | 6.92 | 8.08 | 8.33 | 8.27 | 8.06 | 8.02 | 7.68 | 7.55 |
| % WHO ARE BLACK | 5.15 | 5.34 | 5.19 | 4.72 | 5.16 | 4.75 | 4.67 | 4.46 | 4.61 |
| % WHO ARE HISPANIC | 1.53 | 1.50 | 1.56 | 1.65 | 1.94 | 2.16 | 1.86 | 1.91 | 2.03 |
| % WHO ARE ASIAN AMERICAN | 1.38 | 1.57 | 1.69 | 1.45 | 1.54 | 1.63 | 1.69 | 2.08 | 2.22 |
| % PURSUING DOCTORATE | 27.19 | 26.01 | 26.71 | 26.04 | 25.51 | 23.92 | 24.43 | 26.56 | 27.24 |
| % OLDER THAN 30 | 16.13 | 24.20 | 21.81 | 24.66 | 27.26 | 28.91 | 30.70 | 32.93 | 34.64 |
| GRE VERBAL MEAN | 492 | 495 | 488 | 487 | 483 | 485 | 487 | 485 | 481 |
| GRE QUANTITATIVE MEAN | 491 | 492 | 493 | 494 | 496 | 494 | 495 | 498 | 495 |
| GRE ANALYTICAL MEAN | 517 | 509 | 519 | 515 | 520 | 518 | 525 | 525 | 523 |

* DATA FOR 1979 NOT AVAILABLE

TABLE 2.9

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN EDUCATION

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 35010 | 38425 | 30199 | 24588 | 22568 | 23181 | 26918 | 28163 | 30275 |
| % OF TOTAL EXAMINEES | 21.89 | 22.37 | 20.69 | 19.10 | 19.16 | 19.52 | 20.14 | 19.95 | 20.34 |
| % WHO ARE FEMALE | 72.60 | 70.75 | 73.48 | 73.01 | 74.71 | 74.71 | 75.81 | 74.91 | 75.06 |
| % WHO ARE BLACK | 8.34 | 9.18 | 7.56 | 8.40 | 7.36 | 6.55 | 6.86 | 6.44 | 6.25 |
| % WHO ARE HISPANIC | 3.10 | 3.21 | 3.29 | 4.03 | 3.66 | 3.51 | 3.79 | 3.17 | 3.36 |
| % WHO ARE ASIAN AMERICAN | 0.85 | 0.83 | 0.78 | 0.89 | 0.77 | 0.82 | 0.96 | 0.98 | 1.18 |
| % PURSUING DOCTORATE | 24.02 | 23.89 | 24.39 | 25.82 | 24.93 | 24.71 | 22.90 | 24.47 | 24.08 |
| % OLDER THAN 30 | 28.49 | 40.61 | 38.14 | 41.11 | 39.90 | 40.89 | 43.21 | 45.56 | 45.89 |
| GRE VERBAL MEAN | 451 | 453 | 452 | 450 | 450 | 453 | 452 | 461 | 460 |
| GRE QUANTITATIVE MEAN | 449 | 450 | 449 | 449 | 455 | 454 | 453 | 462 | 462 |
| GRE ANALYTICAL MEAN | 466 | 461 | 469 | 465 | 473 | 479 | 481 | 487 | 488 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 9338 | 10989 | 7777 | 6332 | 5622 | 5745 | 6362 | 6952 | 7413 |
| % OF TOTAL EXAMINEES | 5.84 | 6.40 | 5.33 | 4.92 | 4.77 | 4.84 | 4.76 | 4.92 | 4.98 |
| % WHO ARE BLACK | 7.61 | 7.94 | 6.66 | 7.30 | 6.60 | 5.83 | 6.05 | 5.65 | 5.95 |
| % WHO ARE HISPANIC | 3.67 | 4.06 | 4.22 | 4.64 | 4.36 | 3.76 | 3.85 | 3.51 | 3.35 |
| % WHO ARE ASIAN AMERICAN | 0.77 | 0.75 | 0.66 | 0.84 | 0.82 | 0.91 | 1.12 | 1.12 | 1.25 |
| % PURSUING DOCTORATE | 36.58 | 37.24 | 37.24 | 38.00 | 36.98 | 36.47 | 34.55 | 36.38 | 35.71 |
| % OLDER THAN 30 | 30.73 | 49.38 | 43.61 | 46.87 | 47.32 | 49.05 | 50.11 | 52.90 | 52.96 |
| GRE VERBAL MEAN | 450 | 452 | 452 | 452 | 453 | 459 | 458 | 465 | 466 |
| GRE QUANTITATIVE MEAN | 477 | 478 | 480 | 479 | 483 | 483 | 488 | 494 | 492 |
| GRE ANALYTICAL MEAN | 461 | 455 | 464 | 459 | 465 | 479 | 483 | 486 | 487 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 25415 | 27187 | 22191 | 17952 | 16861 | 17319 | 20407 | 21098 | 22723 |
| % OF TOTAL EXAMINEES | 15.89 | 15.83 | 15.21 | 13.94 | 14.32 | 14.59 | 15.27 | 14.94 | 15.27 |
| % WHO ARE BLACK | 8.60 | 9.67 | 7.90 | 8.78 | 7.64 | 6.81 | 7.11 | 6.71 | 6.35 |
| % WHO ARE HISPANIC | 2.87 | 2.87 | 2.97 | 3.84 | 3.43 | 3.44 | 3.77 | 3.06 | 3.36 |
| % WHO ARE ASIAN AMERICAN | 0.89 | 0.87 | 0.82 | 0.91 | 0.76 | 0.80 | 0.92 | 0.94 | 1.16 |
| % PURSUING DOCTORATE | 19.43 | 18.50 | 19.91 | 21.47 | 20.89 | 20.76 | 19.27 | 20.48 | 20.27 |
| % OLDER THAN 30 | 27.61 | 36.93 | 36.12 | 38.98 | 37.37 | 38.08 | 41.00 | 43.10 | 43.49 |
| GRE VERBAL MEAN | 452 | 454 | 452 | 449 | 449 | 452 | 450 | 459 | 459 |
| GRE QUANTITATIVE MEAN | 439 | 440 | 439 | 438 | 445 | 444 | 442 | 452 | 453 |
| GRE ANALYTICAL MEAN | 468 | 463 | 470 | 468 | 476 | 479 | 480 | 487 | 488 |

* DATA FOR 1979 NOT AVAILABLE

TABLE 2.10

TRENDS TABLE FOR U.S. CITIZENS INTENDING A MAJOR IN BUSINESS/PUBLIC ADMINISTRATION

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 14420 | 15405 | 12462 | 10007 | 8460 | 8118 | 8923 | 9177 | 9481 |
| % OF TOTAL EXAMINEES | 9.02 | 8.97 | 8.54 | 7.77 | 7.18 | 6.84 | 6.68 | 6.50 | 6.50 |
| % WHO ARE FEMALE | 47.88 | 41.13 | 51.45 | 51.65 | 52.13 | 53.67 | 54.47 | 56.26 | 56.52 |
| % WHO ARE BLACK | 12.20 | 12.15 | 12.37 | 12.36 | 12.81 | 12.03 | 11.64 | 11.34 | 13.20 |
| % WHO ARE HISPANIC | 3.04 | 2.86 | 3.15 | 4.18 | 3.88 | 4.46 | 4.38 | 4.05 | 4.82 |
| % WHO ARE ASIAN AMERICAN | 1.69 | 1.64 | 2.16 | 1.91 | 1.96 | 2.18 | 2.12 | 2.29 | 2.56 |
| % PURSUING DOCTORATE | 20.37 | 22.11 | 20.11 | 20.00 | 19.37 | 19.19 | 18.87 | 20.42 | 20.45 |
| % OLDER THAN 30 | 15.46 | 25.91 | 22.97 | 24.65 | 25.97 | 28.26 | 29.98 | 31.25 | 33.10 |
| GRE VERBAL MEAN | 486 | 490 | 484 | 480 | 482 | 486 | 483 | 485 | 484 |
| GRE QUANTITATIVE MEAN | 506 | 512 | 506 | 501 | 503 | 503 | 499 | 503 | 500 |
| GRE ANALYTICAL MEAN | 506 | 504 | 509 | 501 | 505 | 513 | 512 | 518 | 515 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7421 | 8967 | 5968 | 4719 | 4017 | 3721 | 4027 | 3970 | 4160 |
| % OF TOTAL EXAMINEES | 4.64 | 5.22 | 4.09 | 3.67 | 3.41 | 3.13 | 3.01 | 2.81 | 2.79 |
| % WHO ARE BLACK | 9.51 | 9.26 | 9.32 | 9.24 | 9.88 | 9.54 | 8.94 | 9.02 | 10.87 |
| % WHO ARE HISPANIC | 3.53 | 2.93 | 3.65 | 4.77 | 4.31 | 5.16 | 4.59 | 4.94 | 5.43 |
| % WHO ARE ASIAN AMERICAN | 1.72 | 1.44 | 1.96 | 1.80 | 1.59 | 2.18 | 1.59 | 2.27 | 2.48 |
| % PURSUING DOCTORATE | 21.39 | 23.26 | 20.33 | 20.15 | 20.26 | 20.48 | 20.16 | 22.22 | 22.67 |
| % OLDER THAN 30 | 16.18 | 27.93 | 25.15 | 26.49 | 28.41 | 31.16 | 31.21 | 32.17 | 35.23 |
| GRE VERBAL MEAN | 482 | 485 | 483 | 480 | 483 | 489 | 487 | 488 | 486 |
| GRE QUANTITATIVE MEAN | 530 | 531 | 531 | 527 | 528 | 528 | 527 | 530 | 526 |
| GRE ANALYTICAL MEAN | 506 | 505 | 509 | 498 | 502 | 519 | 517 | 522 | 518 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 6904 | 6336 | 6412 | 5168 | 4410 | 4357 | 4860 | 5163 | 5472 |
| % OF TOTAL EXAMINEES | 4.32 | 3.69 | 4.39 | 4.01 | 3.74 | 3.67 | 3.64 | 3.66 | 3.68 |
| % WHO ARE BLACK | 15.11 | 16.27 | 15.24 | 15.09 | 15.44 | 14.23 | 13.85 | 13.13 | 15.06 |
| % WHO ARE HISPANIC | 2.53 | 2.78 | 2.71 | 3.68 | 3.51 | 3.90 | 4.20 | 3.39 | 4.33 |
| % WHO ARE ASIAN AMERICAN | 1.64 | 1.93 | 2.35 | 2.05 | 2.31 | 2.18 | 2.55 | 2.32 | 2.65 |
| % PURSUING DOCTORATE | 19.31 | 20.45 | 19.82 | 19.74 | 18.59 | 18.18 | 17.84 | 19.06 | 18.79 |
| % OLDER THAN 30 | 14.67 | 23.05 | 20.79 | 22.88 | 23.76 | 25.72 | 28.86 | 30.56 | 31.50 |
| GRE VERBAL MEAN | 491 | 497 | 485 | 481 | 481 | 484 | 479 | 484 | 482 |
| GRE QUANTITATIVE MEAN | 481 | 485 | 482 | 478 | 481 | 482 | 477 | 482 | 480 |
| GRE ANALYTICAL MEAN | 507 | 502 | 509 | 503 | 508 | 508 | 509 | 516 | 512 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.1

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN ARTS/HUMANITIES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 25676 | 28638 | 23228 | 20162 | 18003 | 18096 | 20584 | 22083 | 23611 |
| % OF TOTAL EXAMINEES | 16.06 | 16.67 | 15.92 | 15.66 | 15.29 | 15.24 | 15.40 | 15.64 | 15.86 |
| % WHO ARE FEMALE | 58.10 | 57.49 | 59.20 | 57.89 | 57.76 | 58.01 | 57.82 | 58.64 | 58.96 |
| % WHO ARE BLACK | 4.38 | 4.54 | 4.00 | 4.08 | 3.96 | 3.73 | 3.61 | 3.43 | 3.48 |
| % WHO ARE HISPANIC | 2.60 | 2.80 | 2.62 | 2.89 | 3.07 | 3.21 | 3.06 | 2.89 | 3.25 |
| % WHO ARE ASIAN AMERICAN | 1.19 | 1.06 | 1.17 | 1.26 | 1.27 | 1.45 | 1.60 | 1.50 | 1.63 |
| % PURSUING DOCTORATE | 36.21 | 37.53 | 35.82 | 37.02 | 38.69 | 39.60 | 38.27 | 40.91 | 41.92 |
| % OLDER THAN 30 | 16.56 | 25.88 | 23.89 | 25.06 | 25.96 | 27.42 | 28.45 | 31.14 | 31.04 |
| GRE VERBAL MEAN | 542 | 547 | 537 | 534 | 541 | 543 | 541 | 548 | 548 |
| GRE QUANTITATIVE MEAN | 495 | 496 | 494 | 500 | 506 | 506 | 503 | 507 | 507 |
| GRE ANALYTICAL MEAN | 528 | 522 | 529 | 520 | 526 | 535 | 536 | 541 | 541 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10604 | 12034 | 9322 | 8288 | 7539 | 7531 | 8588 | 9044 | 9597 |
| % OF TOTAL EXAMINEES | 6.63 | 7.01 | 6.39 | 6.44 | 6.40 | 6.34 | 6.43 | 6.41 | 6.45 |
| % WHO ARE BLACK | 3.49 | 3.71 | 3.75 | 3.49 | 3.59 | 3.39 | 3.40 | 3.14 | 3.33 |
| % WHO ARE HISPANIC | 2.68 | 2.99 | 2.68 | 2.79 | 3.20 | 3.13 | 3.07 | 3.14 | 3.39 |
| % WHO ARE ASIAN AMERICAN | 1.14 | 0.81 | 0.94 | 1.19 | 1.14 | 1.37 | 1.51 | 1.34 | 1.37 |
| % PURSUING DOCTORATE | 42.80 | 44.76 | 41.53 | 41.83 | 43.04 | 42.68 | 42.50 | 46.03 | 46.50 |
| % OLDER THAN 30 | 12.11 | 23.51 | 19.92 | 21.20 | 22.92 | 24.45 | 25.09 | 28.22 | 28.29 |
| GRE VERBAL MEAN | 542 | 545 | 536 | 534 | 539 | 543 | 540 | 547 | 547 |
| GRE QUANTITATIVE MEAN | 525 | 524 | 521 | 530 | 533 | 534 | 530 | 534 | 532 |
| GRE ANALYTICAL MEAN | 531 | 526 | 530 | 523 | 526 | 542 | 540 | 546 | 543 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 14887 | 16463 | 13752 | 11647 | 10398 | 10498 | 11902 | 12949 | 13920 |
| % OF TOTAL EXAMINEES | 9.31 | 9.58 | 9.42 | 9.05 | 8.83 | 8.84 | 8.91 | 9.17 | 9.35 |
| % WHO ARE BLACK | 5.02 | 5.13 | 4.16 | 4.49 | 4.23 | 3.95 | 3.78 | 3.64 | 3.58 |
| % WHO ARE HISPANIC | 2.53 | 2.66 | 2.58 | 3.01 | 2.97 | 3.27 | 3.08 | 2.73 | 3.17 |
| % WHO ARE ASIAN AMERICAN | 1.23 | 1.25 | 1.32 | 1.31 | 1.37 | 1.52 | 1.67 | 1.61 | 1.82 |
| % PURSUING DOCTORATE | 31.56 | 32.30 | 31.97 | 33.70 | 35.48 | 37.43 | 35.25 | 37.36 | 38.81 |
| % OLDER THAN 30 | 19.59 | 27.55 | 26.49 | 27.58 | 28.02 | 29.48 | 30.79 | 33.20 | 32.87 |
| GRE VERBAL MEAN | 543 | 547 | 537 | 534 | 543 | 543 | 541 | 548 | 548 |
| GRE QUANTITATIVE MEAN | 475 | 476 | 476 | 478 | 486 | 485 | 483 | 489 | 490 |
| GRE ANALYTICAL MEAN | 526 | 519 | 528 | 518 | 527 | 531 | 533 | 538 | 539 |

*

DATA FOR 1979 NOT AVAILABLE

TABLE 3.2

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN PHYSICAL SCIENCE/MATH

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 14196 | 15027 | 13561 | 12936 | 13709 | 13681 | 14976 | 15936 | 16032 |
| % OF TOTAL EXAMINEES | 8.88 | 8.75 | 9.29 | 10.05 | 11.64 | 11.52 | 11.21 | 11.29 | 10.77 |
| % WHO ARE FEMALE | 28.44 | 28.08 | 30.58 | 30.09 | 30.16 | 31.55 | 32.30 | 32.58 | 32.19 |
| % WHO ARE BLACK | 3.67 | 3.91 | 3.64 | 3.73 | 3.68 | 3.57 | 3.83 | 4.27 | 4.58 |
| % WHO ARE HISPANIC | 2.26 | 1.66 | 2.25 | 2.33 | 2.71 | 2.79 | 2.54 | 2.33 | 2.93 |
| % WHO ARE ASIAN AMERICAN | 2.29 | 2.09 | 2.68 | 2.68 | 2.91 | 3.00 | 3.66 | 4.26 | 4.45 |
| % PURSUING DOCTORATE | 48.05 | 51.17 | 47.23 | 46.44 | 45.56 | 46.51 | 46.94 | 47.29 | 48.77 |
| % OLDER THAN 30 | 7.84 | 14.79 | 11.24 | 11.66 | 12.04 | 12.88 | 13.32 | 14.70 | 16.22 |
| GRE VERBAL MEAN | 529 | 533 | 531 | 527 | 531 | 533 | 527 | 528 | 529 |
| GRE QUANTITATIVE MEAN | 644 | 649 | 642 | 640 | 641 | 643 | 645 | 649 | 649 |
| GRE ANALYTICAL MEAN | 582 | 579 | 585 | 584 | 587 | 603 | 606 | 608 | 609 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10068 | 10734 | 9334 | 8924 | 9530 | 9309 | 10097 | 10689 | 10818 |
| % OF TOTAL EXAMINEES | 6.30 | 6.25 | 6.40 | 6.93 | 8.09 | 7.84 | 7.56 | 7.57 | 7.27 |
| % WHO ARE BLACK | 2.92 | 3.01 | 2.80 | 2.81 | 2.64 | 2.67 | 2.91 | 3.12 | 3.24 |
| % WHO ARE HISPANIC | 1.96 | 1.39 | 2.14 | 2.13 | 2.65 | 2.49 | 2.36 | 2.15 | 2.94 |
| % WHO ARE ASIAN AMERICAN | 2.05 | 1.96 | 2.38 | 2.49 | 2.57 | 2.64 | 3.44 | 3.75 | 4.10 |
| % PURSUING DOCTORATE | 51.05 | 55.18 | 50.77 | 48.91 | 48.57 | 49.47 | 49.85 | 50.39 | 51.80 |
| % OLDER THAN 30 | 7.13 | 14.02 | 10.18 | 10.87 | 11.39 | 11.89 | 12.76 | 14.03 | 15.84 |
| GRE VERBAL MEAN | 531 | 535 | 534 | 529 | 534 | 537 | 531 | 534 | 535 |
| GRE QUANTITATIVE MEAN | 656 | 660 | 654 | 651 | 651 | 653 | 656 | 660 | 660 |
| GRE ANALYTICAL MEAN | 583 | 580 | 586 | 582 | 584 | 604 | 607 | 608 | 609 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 4036 | 4219 | 4147 | 3891 | 4134 | 4317 | 4837 | 5192 | 5160 |
| % OF TOTAL EXAMINEES | 2.52 | 2.46 | 2.84 | 3.02 | 3.51 | 3.64 | 3.62 | 3.68 | 3.47 |
| % WHO ARE BLACK | 5.50 | 6.16 | 5.57 | 5.89 | 6.07 | 5.44 | 5.69 | 6.57 | 7.34 |
| % WHO ARE HISPANIC | 3.05 | 2.35 | 2.51 | 2.78 | 2.78 | 3.47 | 2.92 | 2.73 | 2.87 |
| % WHO ARE ASIAN AMERICAN | 2.90 | 2.44 | 3.35 | 3.08 | 3.73 | 3.80 | 4.11 | 5.35 | 5.17 |
| % PURSUING DOCTORATE | 40.29 | 40.86 | 39.14 | 40.76 | 38.78 | 40.10 | 40.91 | 41.01 | 42.42 |
| % OLDER THAN 30 | 9.43 | 16.46 | 13.47 | 13.27 | 13.51 | 14.96 | 14.40 | 16.05 | 16.91 |
| GRE VERBAL MEAN | 526 | 528 | 524 | 523 | 523 | 525 | 519 | 518 | 518 |
| GRE QUANTITATIVE MEAN | 617 | 621 | 616 | 616 | 618 | 622 | 622 | 627 | 627 |
| GRE ANALYTICAL MEAN | 581 | 576 | 582 | 590 | 593 | 601 | 604 | 606 | 608 |

* DATA FOR 1979 NOT AVAILABLE

TABLE 3.3

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN ENGINEERING

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7595 | 7362 | 7577 | 7701 | 8792 | 9568 | 10834 | 12265 | 13095 |
| % OF TOTAL EXAMINEES | 4.75 | 4.29 | 5.19 | 5.98 | 7.46 | 8.06 | 8.11 | 8.69 | 8.80 |
| % WHO ARE FEMALE | 11.09 | 8.61 | 11.65 | 13.45 | 14.97 | 15.45 | 15.53 | 17.55 | 16.95 |
| % WHO ARE BLACK | 2.55 | 2.44 | 3.09 | 3.36 | 2.73 | 3.34 | 3.08 | 3.05 | 3.54 |
| % WHO ARE HISPANIC | 3.37 | 3.12 | 3.44 | 3.57 | 3.55 | 3.52 | 3.73 | 3.91 | 4.10 |
| % WHO ARE ASIAN AMERICAN | 5.33 | 4.62 | 5.46 | 6.80 | 5.70 | 6.68 | 7.06 | 7.88 | 8.94 |
| % PURSUING DOCTORATE | 27.53 | 28.89 | 28.40 | 28.98 | 28.78 | 29.99 | 29.54 | 28.91 | 28.84 |
| % OLDER THAN 30 | 8.66 | 18.98 | 11.14 | 10.88 | 10.52 | 11.76 | 11.53 | 11.77 | 12.52 |
| GRE VERBAL MEAN | 517 | 518 | 516 | 514 | 527 | 525 | 518 | 520 | 517 |
| GRE QUANTITATIVE MEAN | 675 | 673 | 674 | 674 | 679 | 677 | 680 | 682 | 681 |
| GRE ANALYTICAL MEAN | 585 | 578 | 587 | 587 | 597 | 611 | 609 | 611 | 610 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 6712 | 6690 | 6642 | 6610 | 7455 | 8045 | 9108 | 10086 | 10814 |
| % OF TOTAL EXAMINEES | 4.20 | 3.89 | 4.55 | 5.13 | 6.33 | 6.78 | 6.82 | 7.14 | 7.27 |
| % WHO ARE BLACK | 2.22 | 2.18 | 2.89 | 3.10 | 2.41 | 2.88 | 2.60 | 2.54 | 2.88 |
| % WHO ARE HISPANIC | 3.44 | 3.18 | 3.52 | 3.69 | 3.62 | 3.43 | 3.65 | 3.82 | 4.01 |
| % WHO ARE ASIAN AMERICAN | 5.13 | 4.60 | 5.15 | 6.48 | 5.62 | 6.50 | 6.77 | 7.54 | 8.66 |
| % PURSUING DOCTORATE | 27.21 | 28.79 | 28.44 | 28.82 | 28.44 | 30.08 | 29.28 | 29.22 | 29.05 |
| % OLDER THAN 30 | 9.34 | 19.85 | 12.03 | 11.97 | 11.58 | 12.99 | 12.71 | 12.77 | 13.54 |
| GRE VERBAL MEAN | 514 | 515 | 513 | 512 | 524 | 523 | 516 | 519 | 516 |
| GRE QUANTITATIVE MEAN | 675 | 676 | 675 | 675 | 680 | 679 | 682 | 686 | 684 |
| GRE ANALYTICAL MEAN | 582 | 577 | 584 | 581 | 590 | 607 | 605 | 607 | 606 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 842 | 634 | 883 | 1036 | 1316 | 1478 | 1683 | 2153 | 2220 |
| % OF TOTAL EXAMINEES | 0.53 | 0.37 | 0.61 | 0.80 | 1.12 | 1.24 | 1.26 | 1.53 | 1.49 |
| % WHO ARE BLACK | 5.34 | 5.36 | 4.76 | 5.21 | 4.48 | 5.75 | 5.53 | 5.34 | 6.80 |
| % WHO ARE HISPANIC | 2.85 | 2.52 | 2.94 | 2.70 | 3.19 | 3.92 | 4.16 | 4.37 | 4.55 |
| % WHO ARE ASIAN AMERICAN | 7.13 | 4.73 | 8.04 | 8.88 | 6.23 | 7.71 | 8.79 | 9.57 | 10.41 |
| % PURSUING DOCTORATE | 30.05 | 30.13 | 28.09 | 30.02 | 30.55 | 29.63 | 30.66 | 27.45 | 27.57 |
| % OLDER THAN 30 | 3.11 | 9.12 | 4.47 | 3.80 | 4.44 | 5.05 | 5.04 | 7.16 | 7.30 |
| GRE VERBAL MEAN | 541 | 550 | 537 | 531 | 543 | 539 | 531 | 524 | 523 |
| GRE QUANTITATIVE MEAN | 670 | 644 | 666 | 664 | 671 | 667 | 670 | 666 | 667 |
| GRE ANALYTICAL MEAN | 611 | 595 | 611 | 626 | 631 | 634 | 632 | 629 | 629 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.4

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN BIOLOGICAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 16643 | 19112 | 14945 | 12875 | 10510 | 10336 | 11442 | 12214 | 12635 |
| % OF TOTAL EXAMINEES | 10.41 | 11.13 | 10.24 | 10.00 | 8.92 | 8.71 | 8.56 | 8.65 | 8.49 |
| % WHO ARE FEMALE | 47.20 | 41.91 | 49.21 | 51.12 | 50.80 | 52.27 | 52.08 | 53.22 | 54.71 |
| % WHO ARE BLACK | 4.55 | 4.55 | 4.73 | 4.89 | 5.02 | 5.07 | 4.80 | 4.57 | 4.77 |
| % WHO ARE HISPANIC | 2.86 | 2.68 | 2.91 | 3.56 | 3.82 | 4.29 | 3.67 | 4.28 | 4.16 |
| % WHO ARE ASIAN AMERICAN | 2.61 | 2.33 | 2.66 | 2.50 | 3.04 | 3.05 | 3.29 | 3.65 | 4.11 |
| % PURSUING DOCTORATE | 52.96 | 54.89 | 52.49 | 52.43 | 53.49 | 53.65 | 53.43 | 53.89 | 54.14 |
| % OLDER THAN 30 | 6.32 | 11.45 | 9.64 | 11.05 | 12.29 | 13.62 | 14.35 | 15.32 | 16.47 |
| GRE VERBAL MEAN | 519 | 520 | 518 | 519 | 520 | 519 | 518 | 520 | 517 |
| GRE QUANTITATIVE MEAN | 566 | 568 | 569 | 570 | 576 | 571 | 573 | 575 | 572 |
| GRE ANALYTICAL MEAN | 554 | 545 | 555 | 552 | 559 | 564 | 570 | 572 | 569 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 8700 | 10966 | 7492 | 6162 | 5145 | 4900 | 5440 | 5669 | 5662 |
| % OF TOTAL EXAMINEES | 5.44 | 6.38 | 5.13 | 4.79 | 4.37 | 4.13 | 4.07 | 4.02 | 3.80 |
| % WHO ARE BLACK | 3.11 | 3.36 | 3.58 | 3.57 | 3.69 | 3.82 | 3.57 | 3.83 | 3.46 |
| % WHO ARE HISPANIC | 2.98 | 2.61 | 2.74 | 3.57 | 3.91 | 4.12 | 3.58 | 4.53 | 4.26 |
| % WHO ARE ASIAN AMERICAN | 2.59 | 2.36 | 2.52 | 2.45 | 2.90 | 3.02 | 3.29 | 3.77 | 4.15 |
| % PURSUING DOCTORATE | 57.23 | 58.75 | 57.62 | 57.11 | 57.38 | 59.14 | 58.82 | 58.49 | 59.55 |
| % OLDER THAN 30 | 5.24 | 11.21 | 9.30 | 10.98 | 13.07 | 15.10 | 14.70 | 16.17 | 17.18 |
| GRE VERBAL MEAN | 515 | 512 | 515 | 516 | 517 | 519 | 515 | 518 | 518 |
| GRE QUANTITATIVE MEAN | 582 | 581 | 584 | 586 | 591 | 587 | 589 | 588 | 588 |
| GRE ANALYTICAL MEAN | 551 | 541 | 551 | 542 | 550 | 563 | 566 | 567 | 566 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7887 | 8009 | 7354 | 6606 | 5339 | 5403 | 5959 | 6500 | 6913 |
| % OF TOTAL EXAMINEES | 4.93 | 4.66 | 5.04 | 5.13 | 4.53 | 4.55 | 4.46 | 4.60 | 4.64 |
| % WHO ARE BLACK | 6.12 | 6.14 | 5.92 | 6.10 | 6.29 | 6.20 | 5.87 | 5.25 | 5.89 |
| % WHO ARE HISPANIC | 2.71 | 2.81 | 3.09 | 3.54 | 3.75 | 4.46 | 3.76 | 4.08 | 4.06 |
| % WHO ARE ASIAN AMERICAN | 2.61 | 2.31 | 2.80 | 2.56 | 3.20 | 3.07 | 3.29 | 3.52 | 4.11 |
| % PURSUING DOCTORATE | 48.03 | 49.51 | 47.25 | 47.61 | 49.69 | 48.70 | 48.60 | 49.89 | 49.66 |
| % OLDER THAN 30 | 7.41 | 11.80 | 9.93 | 11.02 | 11.48 | 12.29 | 13.97 | 14.56 | 15.87 |
| GRE VERBAL MEAN | 524 | 530 | 522 | 523 | 522 | 519 | 520 | 521 | 515 |
| GRE QUANTITATIVE MEAN | 548 | 549 | 553 | 555 | 562 | 556 | 560 | 563 | 558 |
| GRE ANALYTICAL MEAN | 558 | 550 | 558 | 561 | 568 | 565 | 574 | 577 | 573 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.5

SCIENCE TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN APPLIED BIOLOGICAL/ENVIRONMENTAL

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 3184 | 3244 | 2928 | 2670 | 3052 | 2937 | 3160 | 3227 | 3048 |
| % OF TOTAL EXAMINEES | 1.99 | 1.89 | 2.01 | 2.07 | 2.59 | 2.47 | 2.36 | 2.29 | 2.05 |
| % WHO ARE FEMALE | 30.56 | 25.46 | 33.57 | 32.62 | 36.99 | 36.74 | 36.01 | 36.10 | 36.91 |
| % WHO ARE BLACK | 2.10 | 2.03 | 1.98 | 1.95 | 1.67 | 2.11 | 1.55 | 1.67 | 2.36 |
| % WHO ARE HISPANIC | 2.04 | 1.70 | 2.39 | 2.36 | 2.46 | 2.25 | 2.50 | 1.92 | 2.43 |
| % WHO ARE ASIAN AMERICAN | 0.75 | 1.05 | 0.68 | 0.94 | 0.98 | 0.92 | 1.01 | 1.18 | 1.05 |
| % PURSUING DOCTORATE | 36.06 | 35.45 | 36.44 | 34.53 | 31.75 | 34.05 | 32.78 | 33.41 | 34.25 |
| % OLDER THAN 30 | 6.51 | 13.88 | 9.65 | 9.70 | 10.99 | 13.40 | 15.96 | 18.45 | 19.03 |
| GRE VERBAL MEAN | 480 | 478 | 478 | 482 | 488 | 494 | 489 | 488 | 491 |
| GRE QUANTITATIVE MEAN | 549 | 546 | 548 | 553 | 556 | 554 | 548 | 544 | 545 |
| GRE ANALYTICAL MEAN | 531 | 519 | 529 | 532 | 540 | 550 | 546 | 546 | 546 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 2193 | 2398 | 1930 | 1772 | 1916 | 1849 | 2007 | 2044 | 1912 |
| % OF TOTAL EXAMINEES | 1.37 | 1.40 | 1.32 | 1.38 | 1.63 | 1.56 | 1.50 | 1.45 | 1.28 |
| % WHO ARE BLACK | 2.05 | 2.00 | 2.07 | 1.86 | 1.57 | 2.16 | 1.69 | 1.86 | 2.14 |
| % WHO ARE HISPANIC | 2.33 | 2.09 | 2.85 | 2.65 | 3.08 | 2.49 | 3.09 | 2.25 | 2.20 |
| % WHO ARE ASIAN AMERICAN | 0.64 | 0.92 | 0.73 | 0.68 | 0.73 | 0.70 | 0.75 | 1.13 | 0.73 |
| % PURSUING DOCTORATE | 35.70 | 34.57 | 35.28 | 34.48 | 32.78 | 36.02 | 33.58 | 33.07 | 34.05 |
| % OLDER THAN 30 | 8.40 | 16.97 | 12.36 | 12.11 | 14.37 | 16.49 | 19.10 | 21.29 | 21.42 |
| GRE VERBAL MEAN | 468 | 468 | 468 | 471 | 477 | 488 | 478 | 480 | 484 |
| GRE QUANTITATIVE MEAN | 552 | 549 | 552 | 556 | 560 | 562 | 553 | 551 | 553 |
| GRE ANALYTICAL MEAN | 523 | 510 | 519 | 519 | 525 | 542 | 536 | 536 | 539 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 971 | 826 | 983 | 866 | 1129 | 1079 | 1138 | 1165 | 1125 |
| % OF TOTAL EXAMINEES | 0.61 | 0.48 | 0.67 | 0.67 | 0.96 | 0.91 | 0.85 | 0.83 | 0.76 |
| % WHO ARE BLACK | 2.06 | 2.06 | 1.73 | 2.08 | 1.86 | 2.04 | 1.23 | 1.29 | 2.76 |
| % WHO ARE HISPANIC | 1.44 | 0.61 | 1.53 | 1.73 | 1.42 | 1.85 | 1.41 | 1.37 | 2.84 |
| % WHO ARE ASIAN AMERICAN | 0.93 | 1.45 | 0.61 | 1.50 | 1.42 | 1.30 | 1.41 | 1.29 | 1.60 |
| % PURSUING DOCTORATE | 37.08 | 38.38 | 38.86 | 35.80 | 30.20 | 30.40 | 31.28 | 33.82 | 34.58 |
| % OLDER THAN 30 | 2.28 | 4.52 | 4.10 | 4.88 | 5.35 | 8.22 | 10.18 | 13.20 | 14.88 |
| GRE VERBAL MEAN | 508 | 510 | 498 | 503 | 507 | 505 | 508 | 503 | 503 |
| GRE QUANTITATIVE MEAN | 544 | 540 | 540 | 545 | 550 | 540 | 539 | 533 | 533 |
| GRE ANALYTICAL MEAN | 552 | 547 | 550 | 558 | 565 | 563 | 566 | 563 | 560 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.6

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN SOCIAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 41789 | 46499 | 37764 | 32725 | 27420 | 27712 | 31005 | 33152 | 35814 |
| % OF TOTAL EXAMINEES | 26.13 | 27.07 | 25.88 | 25.42 | 23.28 | 23.34 | 23.20 | 23.48 | 24.06 |
| % WHO ARE FEMALE | 53.20 | 49.68 | 55.65 | 55.88 | 56.06 | 56.69 | 57.37 | 57.71 | 57.82 |
| % WHO ARE BLACK | 7.76 | 8.05 | 7.69 | 7.68 | 7.82 | 7.12 | 6.43 | 6.03 | 6.16 |
| % WHO ARE HISPANIC | 3.11 | 3.20 | 3.21 | 3.71 | 3.77 | 3.91 | 4.01 | 3.76 | 3.80 |
| % WHO ARE ASIAN AMERICAN | 1.31 | 1.33 | 1.54 | 1.67 | 1.66 | 1.71 | 1.80 | 1.87 | 1.87 |
| % PURSUING DOCTORATE | 48.16 | 48.65 | 48.95 | 50.54 | 50.46 | 51.70 | 50.77 | 51.43 | 52.60 |
| % OLDER THAN 30 | 13.52 | 22.15 | 19.35 | 20.64 | 21.47 | 22.41 | 23.09 | 24.62 | 24.81 |
| GRE VERBAL MEAN | 513 | 518 | 511 | 508 | 513 | 515 | 512 | 517 | 516 |
| GRE QUANTITATIVE MEAN | 499 | 502 | 500 | 502 | 507 | 505 | 504 | 509 | 508 |
| GRE ANALYTICAL MEAN | 522 | 517 | 525 | 514 | 522 | 530 | 532 | 537 | 536 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 19304 | 23104 | 16533 | 14094 | 11944 | 11866 | 13097 | 13911 | 14956 |
| % OF TOTAL EXAMINEES | 12.07 | 13.45 | 11.33 | 10.95 | 10.14 | 9.99 | 9.80 | 9.85 | 10.05 |
| % WHO ARE BLACK | 6.21 | 6.63 | 6.08 | 6.24 | 6.34 | 5.44 | 5.23 | 4.82 | 5.25 |
| % WHO ARE HISPANIC | 3.45 | 3.38 | 3.39 | 3.83 | 3.94 | 4.26 | 3.89 | 4.03 | 3.73 |
| % WHO ARE ASIAN AMERICAN | 1.35 | 1.18 | 1.48 | 1.56 | 1.72 | 1.57 | 1.65 | 1.81 | 1.65 |
| % PURSUING DOCTORATE | 52.37 | 52.96 | 52.52 | 53.58 | 52.24 | 54.42 | 52.80 | 53.76 | 55.12 |
| % OLDER THAN 30 | 12.42 | 23.43 | 19.52 | 20.51 | 21.78 | 23.33 | 23.59 | 25.90 | 25.70 |
| GRE VERBAL MEAN | 516 | 518 | 517 | 514 | 521 | 525 | 521 | 527 | 527 |
| GRE QUANTITATIVE MEAN | 523 | 522 | 527 | 528 | 534 | 532 | 531 | 535 | 533 |
| GRE ANALYTICAL MEAN | 523 | 516 | 528 | 514 | 522 | 537 | 537 | 540 | 539 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 22232 | 23100 | 21015 | 18287 | 15372 | 15710 | 17787 | 19133 | 20709 |
| % OF TOTAL EXAMINEES | 13.90 | 13.45 | 14.40 | 14.20 | 13.05 | 13.23 | 13.31 | 13.55 | 13.91 |
| % WHO ARE BLACK | 9.10 | 9.46 | 8.95 | 8.75 | 8.96 | 8.40 | 7.31 | 6.91 | 6.82 |
| % WHO ARE HISPANIC | 2.82 | 3.03 | 3.10 | 3.64 | 3.64 | 3.65 | 4.10 | 3.55 | 3.84 |
| % WHO ARE ASIAN AMERICAN | 1.28 | 1.49 | 1.60 | 1.76 | 1.62 | 1.82 | 1.92 | 1.92 | 2.03 |
| % PURSUING DOCTORATE | 44.54 | 44.35 | 46.16 | 48.29 | 49.10 | 49.61 | 49.29 | 49.73 | 50.78 |
| % OLDER THAN 30 | 14.42 | 20.81 | 19.14 | 20.66 | 21.14 | 21.65 | 22.65 | 23.65 | 24.08 |
| GRE VERBAL MEAN | 510 | 519 | 506 | 503 | 507 | 508 | 506 | 510 | 509 |
| GRE QUANTITATIVE MEAN | 478 | 481 | 479 | 482 | 486 | 485 | 485 | 490 | 490 |
| GRE ANALYTICAL MEAN | 521 | 517 | 523 | 515 | 522 | 524 | 528 | 534 | 533 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.7

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN APPLIED SOCIAL SCIENCES

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5980 | 5709 | 5732 | 5006 | 4424 | 4400 | 5068 | 5375 | 6039 |
| % OF TOTAL EXAMINEES | 3.74 | 3.32 | 3.93 | 3.89 | 3.76 | 3.71 | 3.79 | 3.81 | 4.06 |
| % WHO ARE FEMALE | 68.70 | 66.61 | 70.15 | 69.88 | 69.21 | 70.16 | 68.80 | 69.34 | 69.47 |
| % WHO ARE BLACK | 12.27 | 11.98 | 11.64 | 11.77 | 11.98 | 11.75 | 10.10 | 10.57 | 9.74 |
| % WHO ARE HISPANIC | 2.98 | 2.59 | 2.83 | 3.58 | 3.50 | 4.14 | 4.22 | 3.59 | 3.89 |
| % WHO ARE ASIAN AMERICAN | 1.02 | 1.12 | 1.12 | 0.98 | 0.90 | 1.23 | 1.30 | 1.02 | 1.51 |
| % PURSUING DOCTORATE | 18.80 | 20.53 | 19.02 | 20.40 | 20.41 | 20.91 | 20.30 | 22.72 | 21.36 |
| % OLDER THAN 30 | 11.34 | 20.12 | 17.49 | 18.77 | 19.52 | 20.55 | 23.46 | 25.70 | 25.05 |
| GRE VERBAL MEAN | 472 | 478 | 471 | 469 | 470 | 467 | 472 | 474 | 473 |
| GRE QUANTITATIVE MEAN | 446 | 451 | 446 | 447 | 449 | 444 | 447 | 447 | 450 |
| GRE ANALYTICAL MEAN | 483 | 479 | 486 | 484 | 486 | 485 | 493 | 494 | 496 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1827 | 1867 | 1680 | 1461 | 1356 | 1297 | 1560 | 1627 | 1818 |
| % OF TOTAL EXAMINEES | 1.14 | 1.09 | 1.15 | 1.13 | 1.15 | 1.09 | 1.17 | 1.15 | 1.22 |
| % WHO ARE BLACK | 9.91 | 9.48 | 9.35 | 9.24 | 10.55 | 9.02 | 7.05 | 7.31 | 7.32 |
| % WHO ARE HISPANIC | 3.56 | 2.89 | 3.10 | 4.18 | 2.95 | 4.01 | 3.21 | 3.50 | 3.91 |
| % WHO ARE ASIAN AMERICAN | 1.15 | 0.54 | 1.37 | 0.96 | 0.96 | 1.62 | 1.15 | 0.61 | 1.43 |
| % PURSUING DOCTORATE | 23.70 | 26.46 | 25.12 | 26.42 | 26.33 | 25.44 | 26.09 | 27.47 | 26.51 |
| % OLDER THAN 30 | 9.87 | 22.27 | 17.77 | 19.40 | 19.00 | 22.01 | 23.30 | 26.10 | 28.29 |
| GRE VERBAL MEAN | 485 | 493 | 486 | 486 | 491 | 488 | 491 | 490 | 492 |
| GRE QUANTITATIVE MEAN | 480 | 483 | 483 | 486 | 492 | 484 | 484 | 482 | 486 |
| GRE ANALYTICAL MEAN | 491 | 490 | 498 | 489 | 500 | 503 | 507 | 505 | 508 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 4108 | 3803 | 4021 | 3498 | 3062 | 3087 | 3487 | 3727 | 4195 |
| % OF TOTAL EXAMINEES | 2.57 | 2.21 | 2.76 | 2.72 | 2.60 | 2.60 | 2.61 | 2.64 | 2.82 |
| % WHO ARE BLACK | 13.34 | 13.20 | 12.66 | 12.78 | 12.64 | 12.93 | 11.44 | 12.02 | 10.77 |
| % WHO ARE HISPANIC | 2.70 | 2.45 | 2.74 | 3.29 | 3.76 | 4.18 | 4.67 | 3.65 | 3.89 |
| % WHO ARE ASIAN AMERICAN | 0.97 | 1.39 | 1.02 | 1.00 | 0.88 | 1.07 | 1.38 | 1.21 | 1.55 |
| % PURSUING DOCTORATE | 16.58 | 17.57 | 16.56 | 17.95 | 17.83 | 19.02 | 17.67 | 20.55 | 19.14 |
| % OLDER THAN 30 | 11.85 | 19.00 | 17.33 | 18.48 | 19.69 | 19.84 | 23.46 | 25.45 | 23.60 |
| GRE VERBAL MEAN | 467 | 471 | 465 | 462 | 461 | 459 | 463 | 467 | 465 |
| GRE QUANTITATIVE MEAN | 431 | 435 | 430 | 431 | 430 | 427 | 430 | 432 | 435 |
| GRE ANALYTICAL MEAN | 479 | 473 | 481 | 482 | 480 | 478 | 487 | 488 | 491 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.8

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN HEALTH SCIENCES/SERVICE

| MALES AND FEMALES | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 13434 | 12722 | 12595 | 11416 | 10069 | 9836 | 11216 | 11462 | 11800 |
| % OF TOTAL EXAMINEES | 8.40 | 7.41 | 8.63 | 8.87 | 8.55 | 8.28 | 8.39 | 8.12 | 7.93 |
| % WHO ARE FEMALE | 87.09 | 85.97 | 88.03 | 87.44 | 88.22 | 89.38 | 88.92 | 88.81 | 88.66 |
| % WHO ARE BLACK | 5.54 | 5.48 | 5.01 | 4.94 | 4.85 | 4.69 | 4.96 | 4.57 | 4.75 |
| % WHO ARE HISPANIC | 1.40 | 1.32 | 1.56 | 1.66 | 1.65 | 2.16 | 1.80 | 1.68 | 1.97 |
| % WHO ARE ASIAN AMERICAN | 1.31 | 1.52 | 1.57 | 1.49 | 1.29 | 1.58 | 1.35 | 1.61 | 1.97 |
| % PURSUING DOCTORATE | 24.49 | 24.63 | 24.61 | 24.79 | 24.31 | 22.68 | 22.87 | 25.00 | 25.08 |
| % OLDER THAN 30 | 21.76 | 32.15 | 29.18 | 31.97 | 35.73 | 37.57 | 39.63 | 43.53 | 45.38 |
| GRE VERBAL MEAN | 484 | 486 | 483 | 482 | 480 | 481 | 484 | 482 | 478 |
| GRE QUANTITATIVE MEAN | 480 | 482 | 484 | 486 | 487 | 484 | 484 | 484 | 480 |
| GRE ANALYTICAL MEAN | 505 | 496 | 509 | 502 | 508 | 506 | 512 | 510 | 508 |

| MALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 1655 | 1712 | 1423 | 1326 | 1147 | 1000 | 1201 | 1239 | 1291 |
| % OF TOTAL EXAMINEES | 1.03 | 1.00 | 0.98 | 1.03 | 0.97 | 0.84 | 0.90 | 0.88 | 0.87 |
| % WHO ARE BLACK | 4.29 | 3.33 | 2.60 | 3.47 | 2.79 | 2.90 | 3.08 | 3.63 | 3.02 |
| % WHO ARE HISPANIC | 3.08 | 1.52 | 2.25 | 3.39 | 3.31 | 3.50 | 4.00 | 3.07 | 3.02 |
| % WHO ARE ASIAN AMERICAN | 2.05 | 2.75 | 2.11 | 2.56 | 2.01 | 1.90 | 2.08 | 1.45 | 3.95 |
| % PURSUING DOCTORATE | 48.28 | 52.22 | 51.09 | 49.62 | 46.12 | 45.20 | 43.30 | 44.47 | 44.93 |
| % OLDER THAN 30 | 14.37 | 23.69 | 23.08 | 24.20 | 26.87 | 29.61 | 32.18 | 36.64 | 35.15 |
| GRE VERBAL MEAN | 490 | 488 | 493 | 493 | 494 | 495 | 496 | 491 | 490 |
| GRE QUANTITATIVE MEAN | 544 | 550 | 555 | 556 | 560 | 550 | 552 | 546 | 541 |
| GRE ANALYTICAL MEAN | 518 | 514 | 528 | 519 | 523 | 532 | 535 | 528 | 527 |

| FEMALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 11700 | 10937 | 11088 | 9982 | 8883 | 8791 | 9973 | 10179 | 10462 |
| % OF TOTAL EXAMINEES | 7.32 | 6.37 | 7.60 | 7.75 | 7.54 | 7.40 | 7.46 | 7.21 | 7.03 |
| % WHO ARE BLACK | 5.72 | 5.80 | 5.33 | 5.09 | 5.09 | 4.90 | 5.19 | 4.71 | 4.97 |
| % WHO ARE HISPANIC | 1.17 | 1.29 | 1.47 | 1.43 | 1.44 | 2.01 | 1.54 | 1.51 | 1.84 |
| % WHO ARE ASIAN AMERICAN | 1.20 | 1.33 | 1.50 | 1.33 | 1.19 | 1.55 | 1.26 | 1.64 | 1.72 |
| % PURSUING DOCTORATE | 21.09 | 20.27 | 21.22 | 21.50 | 21.47 | 20.16 | 20.40 | 22.67 | 22.70 |
| % OLDER THAN 30 | 22.74 | 33.38 | 29.92 | 33.06 | 36.88 | 38.43 | 40.45 | 44.36 | 46.58 |
| GRE VERBAL MEAN | 483 | 486 | 481 | 480 | 478 | 480 | 482 | 481 | 476 |
| GRE QUANTITATIVE MEAN | 472 | 472 | 475 | 477 | 478 | 476 | 476 | 477 | 472 |
| GRE ANALYTICAL MEAN | 503 | 494 | 507 | 499 | 506 | 503 | 509 | 508 | 506 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.9

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN EDUCATION

MALES AND FEMALES

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 25229 | 26783 | 21795 | 18171 | 17183 | 17762 | 20438 | 20336 | 20935 |
| % OF TOTAL EXAMINEES | 15.78 | 15.59 | 14.93 | 14.11 | 14.59 | 14.96 | 15.29 | 14.40 | 14.07 |
| % WHO ARE FEMALE | 76.02 | 74.88 | 76.70 | 76.58 | 78.63 | 78.14 | 79.02 | 78.77 | 78.68 |
| % WHO ARE BLACK | 8.28 | 9.39 | 7.49 | 8.01 | 7.11 | 6.31 | 6.30 | 6.06 | 5.87 |
| % WHO ARE HISPANIC | 2.92 | 2.76 | 3.19 | 3.79 | 3.46 | 3.38 | 3.75 | 3.15 | 3.23 |
| % WHO ARE ASIAN AMERICAN | 0.73 | 0.57 | 0.65 | 0.64 | 0.68 | 0.74 | 0.74 | 0.92 | 1.06 |
| % PURSUING DOCTORATE | 20.54 | 20.40 | 20.71 | 22.31 | 20.72 | 21.65 | 19.84 | 21.42 | 21.09 |
| % OLDER THAN 30 | 25.10 | 36.45 | 34.01 | 36.69 | 35.19 | 36.99 | 40.26 | 42.92 | 44.15 |
| GRE VERBAL MEAN | 436 | 438 | 439 | 437 | 438 | 441 | 439 | 445 | 443 |
| GRE QUANTITATIVE MEAN | 440 | 439 | 442 | 442 | 448 | 445 | 443 | 450 | 450 |
| GRE ANALYTICAL MEAN | 458 | 452 | 461 | 462 | 470 | 473 | 474 | 478 | 478 |

MALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5869 | 6549 | 4920 | 4044 | 3611 | 3795 | 4177 | 4238 | 4366 |
| % OF TOTAL EXAMINEES | 3.67 | 3.81 | 3.37 | 3.14 | 3.07 | 3.20 | 3.13 | 3.00 | 2.93 |
| % WHO ARE BLACK | 7.33 | 8.35 | 6.40 | 6.73 | 6.45 | 5.72 | 5.36 | 5.47 | 5.63 |
| % WHO ARE HISPANIC | 3.49 | 3.57 | 4.37 | 4.40 | 4.10 | 3.82 | 3.90 | 3.33 | 3.21 |
| % WHO ARE ASIAN AMERICAN | 0.58 | 0.44 | 0.51 | 0.62 | 0.66 | 0.74 | 0.79 | 0.83 | 1.42 |
| % PURSUING DOCTORATE | 31.98 | 32.88 | 31.42 | 33.26 | 31.13 | 32.46 | 30.50 | 32.96 | 32.00 |
| % OLDER THAN 30 | 24.36 | 42.71 | 36.01 | 39.26 | 39.26 | 42.37 | 44.48 | 48.49 | 48.90 |
| GRE VERBAL MEAN | 431 | 431 | 433 | 435 | 436 | 441 | 439 | 444 | 442 |
| GRE QUANTITATIVE MEAN | 465 | 464 | 467 | 470 | 474 | 470 | 473 | 477 | 477 |
| GRE ANALYTICAL MEAN | 450 | 443 | 451 | 454 | 460 | 471 | 473 | 473 | 474 |

FEMALES ONLY

YEAR OF GRE

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 19178 | 20056 | 16716 | 13914 | 13511 | 13879 | 16150 | 16019 | 16472 |
| % OF TOTAL EXAMINEES | 11.99 | 11.68 | 11.45 | 10.81 | 11.47 | 11.69 | 12.09 | 11.35 | 11.07 |
| % WHO ARE BLACK | 8.59 | 9.71 | 7.81 | 8.39 | 7.28 | 6.47 | 6.54 | 6.23 | 5.94 |
| % WHO ARE HISPANIC | 2.72 | 2.49 | 2.85 | 3.62 | 3.29 | 3.28 | 3.70 | 3.11 | 3.25 |
| % WHO ARE ASIAN AMERICAN | 0.79 | 0.62 | 0.67 | 0.66 | 0.68 | 0.74 | 0.74 | 0.96 | 0.97 |
| % PURSUING DOCTORATE | 17.05 | 16.34 | 17.60 | 19.12 | 17.93 | 18.68 | 17.08 | 18.33 | 18.20 |
| % OLDER THAN 30 | 25.31 | 34.27 | 33.34 | 35.82 | 34.04 | 35.39 | 39.09 | 41.40 | 42.81 |
| GRE VERBAL MEAN | 438 | 440 | 440 | 438 | 439 | 440 | 439 | 446 | 444 |
| GRE QUANTITATIVE MEAN | 433 | 432 | 434 | 434 | 441 | 438 | 436 | 443 | 443 |
| GRE ANALYTICAL MEAN | 461 | 456 | 464 | 464 | 472 | 473 | 475 | 479 | 479 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 3.10

TRENDS TABLE FOR U.S. CITIZENS WITH UNDERGRADUATE MAJOR IN BUSINESS/PUBLIC ADMINISTRATION

| MALES AND FEMALES | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 6181 | 6684 | 5819 | 5078 | 4615 | 4399 | 4913 | 5129 | 5832 |
| % OF TOTAL EXAMINEES | 3.87 | 3.89 | 3.99 | 3.94 | 3.92 | 3.71 | 3.68 | 3.63 | 3.92 |
| % WHO ARE FEMALE | 37.60 | 32.72 | 40.76 | 40.84 | 43.62 | 44.12 | 47.26 | 48.41 | 49.11 |
| % WHO ARE BLACK | 12.15 | 12.25 | 12.08 | 11.95 | 12.70 | 10.96 | 10.65 | 11.02 | 11.45 |
| % WHO ARE HISPANIC | 2.94 | 3.07 | 2.56 | 3.76 | 3.27 | 4.43 | 3.85 | 3.43 | 3.89 |
| % WHO ARE ASIAN AMERICAN | 1.49 | 1.23 | 1.31 | 1.50 | 1.45 | 1.70 | 1.51 | 1.31 | 1.85 |
| % PURSUING DOCTORATE | 21.02 | 22.13 | 21.33 | 20.70 | 21.32 | 23.32 | 22.06 | 24.49 | 23.34 |
| % OLDER THAN 30 | 20.66 | 33.89 | 28.18 | 29.09 | 29.42 | 32.97 | 32.10 | 34.41 | 34.47 |
| GRE VERBAL MEAN | 456 | 456 | 458 | 457 | 457 | 466 | 460 | 466 | 464 |
| GRE QUANTITATIVE MEAN | 499 | 501 | 501 | 501 | 498 | 499 | 496 | 498 | 496 |
| GRE ANALYTICAL MEAN | 489 | 481 | 492 | 489 | 494 | 503 | 504 | 508 | 506 |

| MALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 3810 | 4466 | 3414 | 2954 | 2579 | 2436 | 2571 | 2628 | 2940 |
| % OF TOTAL EXAMINEES | 2.38 | 2.60 | 2.34 | 2.29 | 2.19 | 2.05 | 1.92 | 1.86 | 1.98 |
| % WHO ARE BLACK | 8.69 | 8.71 | 9.31 | 8.50 | 8.76 | 8.21 | 7.93 | 8.07 | 8.61 |
| % WHO ARE HISPANIC | 2.94 | 3.05 | 3.02 | 3.76 | 3.61 | 4.23 | 3.97 | 3.42 | 4.08 |
| % WHO ARE ASIAN AMERICAN | 1.31 | 0.96 | 1.14 | 1.39 | 1.43 | 1.68 | 1.32 | 1.22 | 1.84 |
| % PURSUING DOCTORATE | 23.12 | 24.03 | 23.37 | 22.61 | 23.30 | 25.90 | 25.17 | 28.12 | 26.80 |
| % OLDER THAN 30 | 21.85 | 36.03 | 30.69 | 31.88 | 32.45 | 36.20 | 34.59 | 38.46 | 37.23 |
| GRE VERBAL MEAN | 459 | 460 | 462 | 461 | 464 | 474 | 468 | 471 | 471 |
| GRE QUANTITATIVE MEAN | 521 | 520 | 523 | 523 | 521 | 520 | 523 | 522 | 521 |
| GRE ANALYTICAL MEAN | 494 | 489 | 497 | 488 | 495 | 507 | 512 | 512 | 511 |

| FEMALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * YEAR OF GRE | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 2324 | 2187 | 2372 | 2074 | 2013 | 1941 | 2322 | 2483 | 2864 |
| % OF TOTAL EXAMINEES | 1.45 | 1.27 | 1.63 | 1.61 | 1.71 | 1.63 | 1.74 | 1.76 | 1.92 |
| % WHO ARE BLACK | 17.90 | 19.66 | 15.98 | 16.83 | 17.69 | 14.32 | 13.57 | 14.18 | 14.49 |
| % WHO ARE HISPANIC | 2.97 | 3.16 | 1.94 | 3.86 | 2.83 | 4.69 | 3.70 | 3.42 | 3.67 |
| % WHO ARE ASIAN AMERICAN | 1.68 | 1.78 | 1.52 | 1.69 | 1.49 | 1.75 | 1.72 | 1.41 | 1.89 |
| % PURSUING DOCTORATE | 17.51 | 18.06 | 18.30 | 18.03 | 18.73 | 19.94 | 18.60 | 20.66 | 19.83 |
| % OLDER THAN 30 | 18.62 | 29.36 | 24.48 | 34.89 | 25.48 | 28.76 | 29.30 | 30.12 | 31.56 |
| GRE VERBAL MEAN | 451 | 448 | 453 | 451 | 449 | 457 | 451 | 462 | 456 |
| GRE QUANTITATIVE MEAN | 463 | 462 | 470 | 471 | 468 | 472 | 466 | 472 | 471 |
| GRE ANALYTICAL MEAN | 480 | 467 | 486 | 493 | 493 | 499 | 496 | 504 | 502 |

*
DATA FOR 1979 NOT AVAILABLE

TABLE 4.1

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: ARTS/HUMANITIES

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 16186 | 18222 | 14668 | 13009 | 11651 | 11726 | 13544 | 14373 | 15322 |
| % OF TOTAL EXAMINEES ** | 63.04 | 63.63 | 63.15 | 64.52 | 64.72 | 64.80 | 65.80 | 65.09 | 64.89 |
| % WHO ARE FEMALE | 51.53 | 51.37 | 52.73 | 52.57 | 52.91 | 52.67 | 52.89 | 53.73 | 53.97 |
| % WHO ARE BLACK | 3.39 | 3.83 | 3.31 | 3.24 | 3.13 | 3.00 | 3.09 | 2.65 | 2.96 |
| % WHO ARE HISPANIC | 2.28 | 2.39 | 2.40 | 2.71 | 2.82 | 3.15 | 2.78 | 2.98 | 3.22 |
| % WHO ARE ASIAN AMERICAN | 1.28 | 1.11 | 1.19 | 1.33 | 1.38 | 1.52 | 1.67 | 1.60 | 1.79 |
| % PURSUING DOCTORATE | 39.51 | 42.14 | 38.89 | 39.25 | 41.84 | 43.05 | 41.80 | 44.83 | 46.66 |
| % OLDER THAN 30 | 10.10 | 17.18 | 15.56 | 16.62 | 17.50 | 19.05 | 20.39 | 22.37 | 22.38 |
| GRE VERBAL MEAN | 542 | 547 | 535 | 531 | 541 | 541 | 540 | 547 | 548 |
| GRE QUANTITATIVE MEAN | 502 | 503 | 499 | 505 | 510 | 510 | 508 | 511 | 512 |
| GRE ANALYTICAL MEAN | 533 | 527 | 531 | 527 | 533 | 541 | 542 | 547 | 547 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7750 | 8777 | 6853 | 6048 | 5459 | 5505 | 6330 | 6588 | 6989 |
| % OF TOTAL EXAMINEES ** | 73.09 | 72.94 | 73.51 | 72.97 | 72.29 | 73.10 | 73.71 | 72.84 | 72.82 |
| % WHO ARE BLACK | 2.89 | 3.37 | 3.49 | 3.03 | 3.28 | 2.91 | 3.08 | 2.57 | 2.90 |
| % WHO ARE HISPANIC | 2.34 | 2.47 | 2.29 | 2.45 | 2.92 | 3.05 | 2.73 | 3.20 | 3.16 |
| % WHO ARE ASIAN AMERICAN | 1.14 | 0.82 | 0.96 | 1.19 | 1.17 | 1.45 | 1.44 | 1.41 | 1.45 |
| % PURSUING DOCTORATE | 43.55 | 46.05 | 41.92 | 42.13 | 43.28 | 43.42 | 43.32 | 47.34 | 48.18 |
| % OLDER THAN 30 | 7.65 | 16.27 | 13.89 | 14.26 | 15.98 | 17.84 | 18.57 | 20.85 | 20.90 |
| GRE VERBAL MEAN | 540 | 545 | 532 | 529 | 536 | 539 | 537 | 544 | 546 |
| GRE QUANTITATIVE MEAN | 527 | 527 | 521 | 530 | 533 | 535 | 532 | 533 | 534 |
| GRE ANALYTICAL MEAN | 534 | 530 | 531 | 527 | 531 | 545 | 545 | 549 | 549 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 8321 | 9361 | 7735 | 6819 | 6165 | 6176 | 7164 | 7723 | 8270 |
| % OF TOTAL EXAMINEES ** | 55.89 | 56.86 | 56.25 | 58.55 | 59.29 | 58.83 | 60.19 | 59.64 | 59.41 |
| % WHO ARE BLACK | 3.88 | 4.24 | 3.15 | 3.43 | 2.98 | 3.06 | 3.10 | 2.72 | 3.01 |
| % WHO ARE HISPANIC | 2.21 | 2.33 | 2.48 | 2.98 | 2.74 | 3.25 | 2.83 | 2.81 | 3.30 |
| % WHO ARE ASIAN AMERICAN | 1.41 | 1.39 | 1.38 | 1.45 | 1.57 | 1.59 | 1.88 | 1.76 | 2.08 |
| % PURSUING DOCTORATE | 35.85 | 38.53 | 36.28 | 36.97 | 40.50 | 42.78 | 40.49 | 42.76 | 45.45 |
| % OLDER THAN 30 | 12.28 | 17.98 | 17.03 | 18.55 | 18.72 | 20.03 | 21.93 | 23.65 | 23.50 |
| GRE VERBAL MEAN | 541 | 550 | 537 | 533 | 545 | 543 | 542 | 549 | 550 |
| GRE QUANTITATIVE MEAN | 479 | 481 | 480 | 482 | 490 | 489 | 487 | 491 | 493 |
| GRE ANALYTICAL MEAN | 531 | 525 | 532 | 526 | 535 | 538 | 540 | 544 | 547 |

*
DATA FOR 1979 NOT AVAILABLE

**
IN THAT UNDERGRADUATE MAJOR

TABLE 4.2

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: PHYSICAL SCIENCE/MATH

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 10437 | 10497 | 10065 | 10043 | 10842 | 10730 | 11588 | 12132 | 11894 |
| % OF TOTAL EXAMINEES ** | 73.52 | 69.85 | 74.22 | 77.64 | 79.09 | 78.43 | 77.38 | 76.13 | 74.19 |
| % WHO ARE FEMALE | 25.94 | 24.60 | 28.71 | 28.73 | 28.24 | 29.41 | 30.14 | 30.00 | 28.98 |
| % WHO ARE BLACK | 3.03 | 3.12 | 3.09 | 3.23 | 3.21 | 3.18 | 3.24 | 3.75 | 3.99 |
| % WHO ARE HISPANIC | 2.20 | 1.43 | 2.15 | 2.24 | 2.64 | 2.73 | 2.58 | 2.37 | 2.94 |
| % WHO ARE ASIAN AMERICAN | 2.14 | 2.05 | 2.52 | 2.54 | 2.82 | 2.93 | 3.64 | 4.24 | 4.45 |
| % PURSUING DOCTORATE | 49.74 | 53.67 | 48.03 | 46.56 | 45.70 | 47.44 | 47.95 | 48.85 | 51.49 |
| % OLDER THAN 30 | 4.25 | 9.33 | 7.34 | 8.38 | 9.10 | 9.65 | 10.25 | 11.47 | 12.09 |
| GRE VERBAL MEAN | 530 | 537 | 533 | 528 | 531 | 534 | 528 | 528 | 530 |
| GRE QUANTITATIVE MEAN | 648 | 658 | 645 | 642 | 642 | 645 | 648 | 652 | 654 |
| GRE ANALYTICAL MEAN | 586 | 586 | 588 | 588 | 590 | 607 | 610 | 612 | 615 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 7667 | 7865 | 7116 | 7078 | 7744 | 7529 | 8062 | 8448 | 8407 |
| % OF TOTAL EXAMINEES ** | 76.15 | 73.27 | 76.24 | 79.31 | 81.26 | 80.88 | 79.85 | 79.03 | 77.71 |
| % WHO ARE BLACK | 2.47 | 2.36 | 2.35 | 2.22 | 2.22 | 2.43 | 2.53 | 2.60 | 2.76 |
| % WHO ARE HISPANIC | 1.87 | 1.17 | 2.01 | 2.06 | 2.60 | 2.42 | 2.34 | 2.21 | 2.87 |
| % WHO ARE ASIAN AMERICAN | 1.88 | 1.84 | 2.23 | 2.36 | 2.52 | 2.58 | 3.35 | 3.59 | 3.97 |
| % PURSUING DOCTORATE | 53.01 | 57.19 | 51.66 | 49.36 | 48.59 | 50.44 | 51.10 | 52.18 | 54.24 |
| % OLDER THAN 30 | 4.05 | 9.43 | 6.91 | 7.93 | 8.92 | 9.14 | 9.79 | 11.18 | 12.34 |
| GRE VERBAL MEAN | 532 | 539 | 537 | 531 | 535 | 538 | 532 | 535 | 536 |
| GRE QUANTITATIVE MEAN | 658 | 667 | 656 | 653 | 652 | 655 | 658 | 662 | 664 |
| GRE ANALYTICAL MEAN | 586 | 586 | 589 | 586 | 587 | 608 | 611 | 613 | 616 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 2707 | 2582 | 2890 | 2885 | 3062 | 3156 | 3493 | 3639 | 3447 |
| % OF TOTAL EXAMINEES ** | 67.07 | 61.20 | 69.69 | 74.15 | 74.07 | 73.11 | 72.21 | 70.09 | 66.80 |
| % WHO ARE BLACK | 4.62 | 5.38 | 4.98 | 5.79 | 5.72 | 4.91 | 4.81 | 6.38 | 6.88 |
| % WHO ARE HISPANIC | 3.21 | 2.25 | 2.49 | 2.63 | 2.68 | 3.52 | 3.12 | 2.75 | 3.06 |
| % WHO ARE ASIAN AMERICAN | 2.88 | 2.67 | 3.22 | 2.95 | 3.63 | 3.80 | 4.29 | 5.83 | 5.57 |
| % PURSUING DOCTORATE | 40.08 | 42.87 | 38.89 | 39.58 | 38.57 | 40.18 | 40.74 | 41.30 | 44.79 |
| % OLDER THAN 30 | 4.77 | 8.74 | 8.36 | 9.29 | 9.50 | 10.86 | 11.32 | 12.12 | 11.42 |
| GRE VERBAL MEAN | 526 | 530 | 524 | 522 | 523 | 525 | 519 | 514 | 516 |
| GRE QUANTITATIVE MEAN | 621 | 629 | 617 | 617 | 619 | 622 | 625 | 629 | 632 |
| GRE ANALYTICAL MEAN | 587 | 585 | 584 | 595 | 597 | 604 | 608 | 609 | 615 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

TABLE 4.3

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: ENGINEERING

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 6021 | 5661 | 6114 | 6385 | 7217 | 7852 | 8899 | 10084 | 10652 |
| % OF TOTAL EXAMINEES ** | 79.28 | 75.89 | 80.69 | 82.91 | 82.09 | 82.07 | 82.14 | 82.22 | 81.34 |
| % WHO ARE FEMALE | 11.38 | 8.18 | 11.79 | 13.67 | 15.19 | 15.13 | 15.38 | 16.63 | 16.44 |
| % WHO ARE BLACK | 2.42 | 2.33 | 3.19 | 3.30 | 2.65 | 3.44 | 2.90 | 2.80 | 3.55 |
| % WHO ARE HISPANIC | 3.60 | 3.44 | 3.45 | 3.65 | 3.64 | 3.55 | 3.87 | 4.07 | 4.20 |
| % WHO ARE ASIAN AMERICAN | 5.65 | 5.19 | 5.64 | 7.11 | 6.15 | 6.99 | 7.24 | 8.31 | 9.45 |
| % PURSUING DOCTORATE | 26.86 | 28.23 | 28.00 | 28.58 | 28.85 | 29.89 | 29.16 | 28.24 | 28.36 |
| % OLDER THAN 30 | 4.63 | 12.06 | 7.09 | 7.33 | 7.46 | 8.90 | 8.33 | 9.09 | 9.54 |
| GRE VERBAL MEAN | 515 | 516 | 514 | 513 | 525 | 522 | 516 | 517 | 513 |
| GRE QUANTITATIVE MEAN | 680 | 682 | 679 | 679 | 683 | 680 | 684 | 687 | 684 |
| GRE ANALYTICAL MEAN | 588 | 582 | 589 | 591 | 600 | 613 | 612 | 613 | 611 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5304 | 5170 | 5351 | 5471 | 6105 | 6626 | 7498 | 8387 | 8859 |
| % OF TOTAL EXAMINEES ** | 79.02 | 77.28 | 80.56 | 82.77 | 81.89 | 82.36 | 82.32 | 83.15 | 81.92 |
| % WHO ARE BLACK | 2.11 | 2.15 | 3.06 | 3.03 | 2.36 | 2.99 | 2.41 | 2.36 | 2.90 |
| % WHO ARE HISPANIC | 3.70 | 3.48 | 3.61 | 3.75 | 3.72 | 3.44 | 3.77 | 3.86 | 4.13 |
| % WHO ARE ASIAN AMERICAN | 5.37 | 5.15 | 5.29 | 6.82 | 6.01 | 6.85 | 7.03 | 7.99 | 9.20 |
| % PURSUING DOCTORATE | 26.49 | 28.05 | 27.96 | 28.55 | 28.40 | 29.97 | 28.90 | 28.48 | 28.49 |
| % OLDER THAN 30 | 5.03 | 12.79 | 7.80 | 8.14 | 8.23 | 9.72 | 9.13 | 9.90 | 10.34 |
| GRE VERBAL MEAN | 512 | 512 | 511 | 510 | 521 | 519 | 513 | 516 | 511 |
| GRE QUANTITATIVE MEAN | 681 | 682 | 679 | 680 | 684 | 682 | 685 | 689 | 686 |
| GRE ANALYTICAL MEAN | 585 | 579 | 586 | 584 | 594 | 609 | 608 | 609 | 607 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 685 | 463 | 721 | 873 | 1096 | 1188 | 1369 | 1677 | 1751 |
| % OF TOTAL EXAMINEES ** | 81.35 | 73.03 | 81.65 | 84.27 | 83.28 | 80.38 | 81.34 | 77.89 | 78.87 |
| % WHO ARE BLACK | 4.96 | 4.54 | 4.30 | 5.15 | 4.20 | 5.89 | 5.41 | 4.95 | 6.85 |
| % WHO ARE HISPANIC | 2.92 | 3.02 | 2.36 | 2.86 | 3.28 | 4.04 | 4.31 | 5.13 | 4.63 |
| % WHO ARE ASIAN AMERICAN | 7.88 | 5.62 | 8.46 | 8.93 | 7.03 | 7.83 | 8.55 | 9.96 | 10.85 |
| % PURSUING DOCTORATE | 29.78 | 30.45 | 28.16 | 28.64 | 31.11 | 29.80 | 30.17 | 27.01 | 27.41 |
| % OLDER THAN 30 | 1.47 | 3.06 | 1.82 | 2.43 | 3.31 | 4.24 | 3.83 | 5.09 | 5.50 |
| GRE VERBAL MEAN | 540 | 561 | 539 | 532 | 543 | 539 | 530 | 522 | 521 |
| GRE QUANTITATIVE MEAN | 676 | 679 | 673 | 671 | 676 | 671 | 676 | 676 | 672 |
| GRE ANALYTICAL MEAN | 612 | 613 | 617 | 631 | 634 | 637 | 635 | 634 | 633 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

TABLE 4.4

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: BIOLOGICAL SCIENCES

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 9329 | 11352 | 8351 | 7360 | 5536 | 5320 | 5868 | 6063 | 6304 |
| % OF TOTAL EXAMINEES ** | 56.05 | 59.40 | 55.88 | 57.17 | 52.67 | 51.47 | 51.28 | 49.64 | 49.89 |
| % WHO ARE FEMALE | 45.30 | 40.28 | 46.82 | 48.91 | 47.72 | 50.75 | 48.94 | 49.69 | 50.10 |
| % WHO ARE BLACK | 3.64 | 3.49 | 3.74 | 4.13 | 4.06 | 4.34 | 4.35 | 3.89 | 3.71 |
| % WHO ARE HISPANIC | 2.80 | 2.61 | 3.14 | 3.85 | 3.92 | 4.91 | 3.83 | 4.67 | 4.71 |
| % WHO ARE ASIAN AMERICAN | 2.32 | 2.07 | 2.36 | 2.26 | 2.80 | 3.12 | 3.20 | 3.89 | 4.12 |
| % PURSUING DOCTORATE | 55.80 | 58.02 | 55.79 | 55.76 | 58.91 | 58.83 | 59.68 | 62.33 | 61.50 |
| % OLDER THAN 30 | 3.97 | 8.20 | 6.18 | 7.04 | 7.43 | 8.89 | 8.56 | 9.26 | 10.25 |
| GRE VERBAL MEAN | 522 | 524 | 521 | 520 | 521 | 518 | 519 | 522 | 518 |
| GRE QUANTITATIVE MEAN | 571 | 574 | 572 | 572 | 581 | 574 | 581 | 580 | 578 |
| GRE ANALYTICAL MEAN | 560 | 552 | 558 | 556 | 566 | 569 | 577 | 578 | 577 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 5052 | 6706 | 4397 | 3677 | 2880 | 2604 | 2977 | 3029 | 3119 |
| % OF TOTAL EXAMINEES ** | 58.07 | 61.15 | 58.69 | 59.67 | 55.98 | 53.14 | 54.72 | 53.43 | 55.09 |
| % WHO ARE BLACK | 2.67 | 2.46 | 2.84 | 3.05 | 3.19 | 3.23 | 3.19 | 3.33 | 2.85 |
| % WHO ARE HISPANIC | 2.69 | 2.48 | 2.84 | 3.64 | 3.75 | 4.26 | 3.53 | 4.42 | 4.55 |
| % WHO ARE ASIAN AMERICAN | 2.10 | 2.15 | 2.30 | 2.20 | 2.64 | 2.88 | 3.39 | 4.03 | 4.07 |
| % PURSUING DOCTORATE | 59.68 | 61.11 | 60.63 | 60.81 | 61.94 | 63.63 | 63.69 | 65.60 | 65.37 |
| % OLDER THAN 30 | 3.10 | 7.92 | 5.50 | 6.54 | 7.37 | 9.21 | 7.70 | 9.41 | 9.92 |
| GRE VERBAL MEAN | 518 | 518 | 520 | 518 | 519 | 519 | 517 | 521 | 520 |
| GRE QUANTITATIVE MEAN | 587 | 587 | 588 | 589 | 594 | 590 | 596 | 592 | 594 |
| GRE ANALYTICAL MEAN | 557 | 548 | 556 | 547 | 556 | 569 | 572 | 573 | 575 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 4220 | 4573 | 3910 | 3578 | 2642 | 2700 | 2872 | 3013 | 3158 |
| % OF TOTAL EXAMINEES ** | 53.51 | 57.10 | 53.17 | 54.16 | 49.48 | 49.97 | 48.20 | 46.35 | 45.68 |
| % WHO ARE BLACK | 4.81 | 4.94 | 4.76 | 5.03 | 5.03 | 5.44 | 5.50 | 4.48 | 4.59 |
| % WHO ARE HISPANIC | 2.87 | 2.84 | 3.48 | 4.00 | 4.13 | 5.56 | 4.18 | 4.95 | 4.88 |
| % WHO ARE ASIAN AMERICAN | 2.54 | 1.99 | 2.40 | 2.32 | 2.99 | 3.37 | 3.03 | 3.72 | 4.21 |
| % PURSUING DOCTORATE | 51.18 | 53.29 | 50.41 | 51.62 | 55.49 | 54.19 | 55.57 | 58.98 | 57.50 |
| % OLDER THAN 30 | 4.91 | 8.57 | 6.87 | 7.53 | 7.38 | 8.58 | 9.40 | 9.19 | 10.61 |
| GRE VERBAL MEAN | 526 | 534 | 522 | 523 | 523 | 518 | 521 | 522 | 516 |
| GRE QUANTITATIVE MEAN | 552 | 555 | 555 | 555 | 567 | 559 | 565 | 569 | 563 |
| GRE ANALYTICAL MEAN | 564 | 557 | 561 | 565 | 576 | 568 | 581 | 583 | 578 |

* DATA FOR 1979 NOT AVAILABLE

** IN THAT UNDERGRADUATE MAJOR

TABLE 4.5

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: APPLIED BIOLOGICAL/ENVIRONMENTAL SCIENCE

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1944 | 1999 | 1792 | 1629 | 1824 | 1763 | 1856 | 1915 | 1751 |
| % OF TOTAL EXAMINEES ** | 61.06 | 61.62 | 61.20 | 61.01 | 59.76 | 60.03 | 58.73 | 59.34 | 57.45 |
| % WHO ARE FEMALE | 28.09 | 22.96 | 30.52 | 28.30 | 33.77 | 33.92 | 32.49 | 30.81 | 32.10 |
| % WHO ARE BLACK | 1.65 | 1.75 | 1.79 | 1.90 | 1.59 | 2.21 | 1.45 | 1.62 | 2.34 |
| % WHO ARE HISPANIC | 2.11 | 2.00 | 2.73 | 2.33 | 2.74 | 2.33 | 2.86 | 1.93 | 2.28 |
| % WHO ARE ASIAN AMERICAN | 0.62 | 1.05 | 0.84 | 0.80 | 0.82 | 0.74 | 0.75 | 1.10 | 0.86 |
| % PURSUING DOCTORATE | 27.31 | 27.56 | 28.01 | 25.84 | 25.99 | 30.01 | 29.96 | 29.14 | 29.75 |
| % OLDER THAN 30 | 4.97 | 12.60 | 7.84 | 7.96 | 8.57 | 10.00 | 11.71 | 14.50 | 13.24 |
| GRE VERBAL MEAN | 480 | 474 | 476 | 478 | 485 | 491 | 482 | 480 | 482 |
| GRE QUANTITATIVE MEAN | 548 | 544 | 545 | 551 | 554 | 554 | 546 | 543 | 546 |
| GRE ANALYTICAL MEAN | 532 | 515 | 525 | 530 | 539 | 549 | 545 | 544 | 546 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1385 | 1526 | 1232 | 1147 | 1204 | 1160 | 1246 | 1317 | 1186 |
| % OF TOTAL EXAMINEES ** | 63.16 | 63.64 | 63.83 | 64.73 | 62.84 | 62.74 | 62.08 | 64.43 | 62.03 |
| % WHO ARE BLACK | 1.66 | 2.03 | 2.19 | 2.01 | 1.41 | 2.33 | 1.61 | 2.20 | 2.02 |
| % WHO ARE HISPANIC | 2.38 | 2.49 | 3.00 | 2.27 | 3.32 | 2.67 | 3.37 | 2.13 | 1.94 |
| % WHO ARE ASIAN AMERICAN | 0.36 | 0.98 | 0.81 | 0.61 | 0.50 | 0.60 | 0.56 | 0.99 | 0.67 |
| % PURSUING DOCTORATE | 28.30 | 28.57 | 27.68 | 27.03 | 27.82 | 32.50 | 31.22 | 29.99 | 30.44 |
| % OLDER THAN 30 | 6.03 | 15.32 | 9.70 | 9.71 | 11.25 | 11.37 | 13.82 | 17.24 | 14.43 |
| GRE VERBAL MEAN | 468 | 465 | 466 | 468 | 475 | 486 | 473 | 472 | 476 |
| GRE QUANTITATIVE MEAN | 551 | 547 | 549 | 553 | 558 | 562 | 552 | 548 | 552 |
| GRE ANALYTICAL MEAN | 524 | 508 | 515 | 518 | 528 | 543 | 536 | 533 | 539 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 546 | 459 | 547 | 460 | 616 | 598 | 603 | 590 | 562 |
| % OF TOTAL EXAMINEES ** | 56.23 | 55.57 | 55.65 | 53.12 | 54.56 | 55.42 | 52.99 | 50.64 | 49.96 |
| % WHO ARE BLACK | 1.28 | 0.87 | 0.91 | 1.52 | 1.95 | 2.01 | 1.16 | 0.34 | 3.02 |
| % WHO ARE HISPANIC | 1.47 | 0.44 | 2.19 | 2.39 | 1.62 | 1.67 | 1.82 | 1.53 | 3.02 |
| % WHO ARE ASIAN AMERICAN | 1.10 | 1.31 | 0.91 | 1.30 | 1.46 | 1.00 | 1.00 | 1.36 | 1.25 |
| % PURSUING DOCTORATE | 24.91 | 24.62 | 28.88 | 23.48 | 22.56 | 25.08 | 27.20 | 27.29 | 28.29 |
| % OLDER THAN 30 | 2.22 | 3.30 | 3.14 | 3.52 | 3.43 | 7.42 | 7.49 | 8.49 | 10.63 |
| GRE VERBAL MEAN | 511 | 504 | 497 | 503 | 503 | 501 | 502 | 499 | 496 |
| GRE QUANTITATIVE MEAN | 540 | 534 | 537 | 547 | 546 | 538 | 534 | 533 | 533 |
| GRE ANALYTICAL MEAN | 554 | 542 | 548 | 561 | 563 | 560 | 566 | 567 | 559 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

TABLE 4.6

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: SOCIAL SCIENCES

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 24125 | 26707 | 22349 | 19998 | 16763 | 17342 | 19284 | 20365 | 22310 |
| % OF TOTAL EXAMINEES ** | 57.73 | 57.44 | 59.18 | 61.11 | 61.13 | 62.58 | 62.20 | 61.43 | 62.29 |
| % WHO ARE FEMALE | 50.87 | 46.88 | 53.44 | 54.85 | 54.83 | 55.22 | 55.82 | 55.89 | 55.87 |
| % WHO ARE BLACK | 7.22 | 7.25 | 6.93 | 7.00 | 7.16 | 6.34 | 5.67 | 5.17 | 5.20 |
| % WHO ARE HISPANIC | 3.16 | 3.40 | 3.35 | 3.80 | 3.78 | 4.12 | 4.01 | 3.86 | 3.80 |
| % WHO ARE ASIAN AMERICAN | 1.21 | 1.24 | 1.51 | 1.63 | 1.71 | 1.75 | 1.79 | 1.90 | 1.87 |
| % PURSUING DOCTORATE | 62.96 | 63.13 | 62.76 | 64.12 | 64.13 | 65.44 | 64.04 | 65.38 | 65.95 |
| % OLDER THAN 30 | 10.08 | 17.41 | 14.48 | 15.50 | 16.03 | 16.63 | 16.84 | 18.10 | 18.28 |
| GRE VERBAL MEAN | 519 | 525 | 517 | 512 | 519 | 519 | 516 | 522 | 521 |
| GRE QUANTITATIVE MEAN | 508 | 511 | 509 | 510 | 516 | 514 | 513 | 519 | 517 |
| GRE ANALYTICAL MEAN | 532 | 526 | 535 | 522 | 531 | 538 | 541 | 546 | 545 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 11712 | 14022 | 10285 | 8858 | 7518 | 7683 | 8449 | 8928 | 9751 |
| % OF TOTAL EXAMINEES ** | 60.67 | 60.69 | 62.21 | 62.85 | 62.94 | 64.75 | 64.51 | 64.18 | 65.20 |
| % WHO ARE BLACK | 5.25 | 5.83 | 5.63 | 5.77 | 5.71 | 4.52 | 4.45 | 4.19 | 4.37 |
| % WHO ARE HISPANIC | 3.44 | 3.52 | 3.34 | 3.89 | 3.94 | 4.49 | 3.88 | 4.16 | 3.80 |
| % WHO ARE ASIAN AMERICAN | 1.26 | 1.21 | 1.55 | 1.54 | 1.88 | 1.57 | 1.67 | 1.83 | 1.76 |
| % PURSUING DOCTORATE | 64.65 | 64.42 | 63.55 | 64.56 | 63.00 | 65.52 | 62.79 | 64.64 | 65.11 |
| % OLDER THAN 30 | 8.46 | 17.95 | 13.74 | 14.60 | 15.57 | 16.47 | 16.78 | 18.64 | 18.39 |
| GRE VERBAL MEAN | 523 | 525 | 523 | 517 | 526 | 530 | 525 | 533 | 532 |
| GRE QUANTITATIVE MEAN | 532 | 530 | 535 | 534 | 543 | 540 | 540 | 544 | 542 |
| GRE ANALYTICAL MEAN | 534 | 526 | 537 | 521 | 531 | 545 | 546 | 550 | 549 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 12272 | 12520 | 11943 | 10969 | 9191 | 9576 | 10765 | 11381 | 12465 |
| % OF TOTAL EXAMINEES ** | 55.20 | 54.20 | 56.83 | 59.98 | 59.79 | 60.95 | 60.52 | 59.48 | 60.19 |
| % WHO ARE BLACK | 9.09 | 8.83 | 8.01 | 7.97 | 8.32 | 7.83 | 6.64 | 5.96 | 5.85 |
| % WHO ARE HISPANIC | 2.89 | 3.27 | 3.38 | 3.74 | 3.67 | 3.82 | 4.14 | 3.65 | 3.79 |
| % WHO ARE ASIAN AMERICAN | 1.17 | 1.28 | 1.50 | 1.71 | 1.57 | 1.90 | 1.90 | 1.96 | 1.96 |
| % PURSUING DOCTORATE | 61.37 | 61.68 | 62.10 | 63.85 | 65.05 | 65.35 | 65.03 | 65.94 | 66.61 |
| % OLDER THAN 30 | 11.55 | 16.74 | 15.08 | 16.15 | 16.33 | 16.68 | 16.86 | 17.66 | 18.11 |
| GRE VERBAL MEAN | 516 | 526 | 513 | 508 | 513 | 511 | 509 | 514 | 512 |
| GRE QUANTITATIVE MEAN | 485 | 490 | 487 | 491 | 494 | 492 | 492 | 500 | 498 |
| GRE ANALYTICAL MEAN | 530 | 527 | 532 | 524 | 531 | 531 | 537 | 544 | 543 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

TABLE 4.7

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: APPLIED SOCIAL SCIENCES

| | | MALES AND FEMALES | | | | | | | |
|--------------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| | | YEAR OF GRE * | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 3814 | 3702 | 3522 | 3144 | 2709 | 2751 | 3055 | 3193 | 3513 |
| % OF TOTAL EXAMINEES ** | 63.78 | 64.84 | 61.44 | 62.80 | 61.23 | 62.52 | 60.28 | 59.40 | 58.17 |
| % WHO ARE FEMALE | 71.34 | 68.91 | 73.00 | 71.41 | 72.46 | 72.26 | 71.33 | 71.41 | 71.16 |
| % WHO ARE BLACK | 13.03 | 12.37 | 12.29 | 12.60 | 13.73 | 12.80 | 10.41 | 11.02 | 10.28 |
| % WHO ARE HISPANIC | 3.17 | 2.81 | 3.21 | 3.91 | 3.65 | 4.62 | 4.58 | 3.73 | 4.44 |
| % WHO ARE ASIAN AMERICAN | 1.05 | 1.03 | 0.99 | 1.02 | 0.89 | 1.24 | 0.98 | 1.13 | 1.57 |
| % PURSUING DOCTORATE | 15.65 | 17.91 | 15.39 | 16.89 | 16.24 | 16.90 | 16.63 | 17.79 | 18.36 |
| % OLDER THAN 30 | 9.74 | 17.40 | 15.40 | 15.80 | 16.69 | 17.95 | 19.74 | 20.69 | 21.43 |
| GRE VERBAL MEAN | 466 | 472 | 466 | 460 | 462 | 458 | 464 | 464 | 463 |
| GRE QUANTITATIVE MEAN | 441 | 446 | 440 | 442 | 441 | 436 | 441 | 440 | 443 |
| GRE ANALYTICAL MEAN | 479 | 474 | 481 | 481 | 481 | 480 | 490 | 488 | 491 |

| | | MALES ONLY | | | | | | | |
|--------------------------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|
| | | YEAR OF GRE * | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 1063 | 1124 | 939 | 873 | 744 | 755 | 864 | 904 | 995 |
| % OF TOTAL EXAMINEES ** | 58.18 | 60.20 | 55.89 | 59.75 | 54.87 | 58.21 | 55.38 | 55.56 | 54.73 |
| % WHO ARE BLACK | 11.38 | 10.14 | 11.18 | 9.97 | 12.37 | 9.14 | 6.94 | 7.74 | 6.83 |
| % WHO ARE HISPANIC | 3.86 | 3.38 | 3.73 | 4.35 | 2.96 | 4.11 | 3.59 | 3.10 | 4.42 |
| % WHO ARE ASIAN AMERICAN | 1.32 | 0.44 | 1.38 | 0.92 | 1.08 | 1.46 | 0.81 | 0.66 | 1.71 |
| % PURSUING DOCTORATE | 20.60 | 23.67 | 23.22 | 23.94 | 22.85 | 21.19 | 23.38 | 22.35 | 23.22 |
| % OLDER THAN 30 | 8.29 | 19.03 | 15.48 | 16.37 | 13.51 | 17.91 | 19.84 | 22.41 | 23.94 |
| GRE VERBAL MEAN | 477 | 485 | 482 | 479 | 485 | 481 | 487 | 481 | 485 |
| GRE QUANTITATIVE MEAN | 473 | 475 | 477 | 481 | 486 | 476 | 481 | 475 | 480 |
| GRE ANALYTICAL MEAN | 487 | 482 | 492 | 489 | 494 | 500 | 508 | 501 | 505 |

| | | FEMALES ONLY | | | | | | | |
|--------------------------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|
| | | YEAR OF GRE * | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 2721 | 2551 | 2571 | 2245 | 1963 | 1988 | 2179 | 2280 | 2500 |
| % OF TOTAL EXAMINEES ** | 66.24 | 67.08 | 63.94 | 64.18 | 64.11 | 64.40 | 62.49 | 61.18 | 59.59 |
| % WHO ARE BLACK | 13.71 | 13.29 | 12.72 | 13.54 | 14.26 | 14.19 | 11.75 | 12.37 | 11.64 |
| % WHO ARE HISPANIC | 2.90 | 2.59 | 3.03 | 3.74 | 3.92 | 4.78 | 5.00 | 3.99 | 4.44 |
| % WHO ARE ASIAN AMERICAN | 0.96 | 1.25 | 0.86 | 1.07 | 0.82 | 1.16 | 1.06 | 1.32 | 1.52 |
| % PURSUING DOCTORATE | 13.71 | 15.29 | 12.60 | 14.16 | 13.75 | 15.24 | 13.95 | 16.01 | 16.52 |
| % OLDER THAN 30 | 10.14 | 16.62 | 15.37 | 15.57 | 17.92 | 17.93 | 19.68 | 20.00 | 20.39 |
| GRE VERBAL MEAN | 461 | 466 | 460 | 453 | 453 | 450 | 455 | 458 | 454 |
| GRE QUANTITATIVE MEAN | 429 | 434 | 427 | 427 | 424 | 421 | 425 | 427 | 428 |
| GRE ANALYTICAL MEAN | 476 | 470 | 477 | 478 | 475 | 473 | 484 | 483 | 486 |

* DATA FOR 1979 NOT AVAILABLE

** IN THAT UNDERGRADUATE MAJOR

TABLE 4.8

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: HEALTH SCIENCES/SERVICE

| MALES AND FEMALES | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| YEAR OF GRE * | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 10149 | 9651 | 9599 | 8796 | 7678 | 7512 | 8496 | 8438 | 8701 |
| % OF TOTAL EXAMINEES ** | 75.55 | 75.86 | 76.21 | 77.05 | 76.25 | 76.37 | 75.75 | 73.62 | 73.74 |
| % WHO ARE FEMALE | 87.58 | 86.17 | 88.75 | 87.63 | 88.81 | 90.00 | 89.81 | 89.35 | 89.23 |
| % WHO ARE BLACK | 4.76 | 4.47 | 4.53 | 4.22 | 4.39 | 4.25 | 4.30 | 4.05 | 4.15 |
| % WHO ARE HISPANIC | 1.35 | 1.16 | 1.58 | 1.58 | 1.55 | 1.98 | 1.79 | 1.59 | 1.90 |
| % WHO ARE ASIAN AMERICAN | 1.29 | 1.46 | 1.46 | 1.27 | 1.16 | 1.46 | 1.24 | 1.47 | 1.80 |
| % PURSUING DOCTORATE | 22.92 | 23.09 | 23.00 | 23.01 | 22.40 | 20.70 | 20.77 | 23.06 | 22.89 |
| % OLDER THAN 30 | 18.70 | 28.20 | 25.37 | 28.68 | 32.51 | 34.42 | 36.70 | 39.97 | 42.04 |
| GRE VERBAL MEAN | 485 | 487 | 482 | 481 | 478 | 480 | 482 | 480 | 475 |
| GRE QUANTITATIVE MEAN | 483 | 486 | 486 | 488 | 489 | 484 | 485 | 485 | 481 |
| GRE ANALYTICAL MEAN | 508 | 500 | 511 | 505 | 511 | 507 | 515 | 512 | 509 |

| MALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| YEAR OF GRE * | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 1204 | 1285 | 1022 | 1001 | 830 | 719 | 831 | 868 | 906 |
| % OF TOTAL EXAMINEES ** | 72.75 | 75.06 | 71.82 | 75.49 | 72.36 | 71.90 | 69.19 | 70.06 | 70.18 |
| % WHO ARE BLACK | 3.49 | 2.88 | 2.15 | 2.50 | 2.53 | 2.64 | 1.93 | 3.34 | 2.32 |
| % WHO ARE HISPANIC | 2.99 | 1.48 | 2.35 | 3.20 | 3.01 | 3.34 | 4.33 | 3.00 | 2.65 |
| % WHO ARE ASIAN AMERICAN | 1.99 | 2.41 | 1.57 | 2.30 | 1.45 | 1.67 | 1.93 | 1.04 | 3.09 |
| % PURSUING DOCTORATE | 50.00 | 54.32 | 55.68 | 52.85 | 48.67 | 47.43 | 44.77 | 44.82 | 43.93 |
| % OLDER THAN 30 | 11.85 | 20.72 | 18.83 | 21.76 | 23.82 | 26.71 | 27.59 | 32.48 | 31.56 |
| GRE VERBAL MEAN | 488 | 484 | 487 | 495 | 489 | 490 | 491 | 486 | 486 |
| GRE QUANTITATIVE MEAN | 547 | 551 | 558 | 563 | 562 | 548 | 551 | 543 | 544 |
| GRE ANALYTICAL MEAN | 521 | 514 | 527 | 526 | 526 | 531 | 539 | 529 | 529 |

| FEMALES ONLY | | | | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| YEAR OF GRE * | | | | | | | | | |
| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
| NUMBER OF EXAMINEES | 8887 | 8316 | 8519 | 7707 | 6819 | 6761 | 7630 | 7539 | 7764 |
| % OF TOTAL EXAMINEES ** | 75.96 | 76.04 | 76.83 | 77.21 | 76.76 | 76.91 | 76.51 | 74.06 | 74.21 |
| % WHO ARE BLACK | 4.95 | 4.71 | 4.81 | 4.41 | 4.59 | 4.42 | 4.56 | 4.15 | 4.37 |
| % WHO ARE HISPANIC | 1.14 | 1.11 | 1.49 | 1.38 | 1.38 | 1.85 | 1.52 | 1.43 | 1.82 |
| % WHO ARE ASIAN AMERICAN | 1.19 | 1.31 | 1.43 | 1.12 | 1.13 | 1.45 | 1.17 | 1.53 | 1.65 |
| % PURSUING DOCTORATE | 19.17 | 18.22 | 19.10 | 19.11 | 19.18 | 17.88 | 18.14 | 20.60 | 20.52 |
| % OLDER THAN 30 | 19.57 | 29.31 | 26.11 | 29.62 | 33.57 | 35.22 | 37.59 | 40.82 | 43.17 |
| GRE VERBAL MEAN | 484 | 488 | 481 | 479 | 477 | 478 | 481 | 479 | 474 |
| GRE QUANTITATIVE MEAN | 474 | 476 | 478 | 479 | 480 | 477 | 478 | 478 | 473 |
| GRE ANALYTICAL MEAN | 506 | 498 | 509 | 503 | 509 | 505 | 512 | 510 | 507 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

TABLE 4.9

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: EDUCATION

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 21047 | 22453 | 17935 | 14819 | 13993 | 14594 | 16734 | 16644 | 17154 |
| % OF TOTAL EXAMINEES ** | 83.42 | 83.83 | 82.29 | 81.55 | 81.44 | 82.16 | 81.88 | 81.85 | 81.94 |
| % WHO ARE FEMALE | 77.07 | 75.92 | 77.65 | 77.38 | 79.73 | 79.11 | 80.64 | 79.82 | 79.96 |
| % WHO ARE BLACK | 8.45 | 9.47 | 7.64 | 8.28 | 7.12 | 6.36 | 6.54 | 6.22 | 6.16 |
| % WHO ARE HISPANIC | 3.00 | 2.93 | 3.30 | 4.10 | 3.50 | 3.44 | 3.92 | 3.26 | 3.38 |
| % WHO ARE ASIAN AMERICAN | 0.75 | 0.57 | 0.64 | 0.68 | 0.68 | 0.66 | 0.75 | 0.81 | 1.00 |
| % PURSUING DOCTORATE | 19.20 | 19.11 | 19.48 | 20.87 | 19.47 | 19.95 | 18.11 | 19.69 | 19.30 |
| % OLDER THAN 30 | 25.42 | 36.43 | 34.10 | 36.56 | 34.99 | 36.48 | 39.87 | 42.48 | 43.71 |
| GRE VERBAL MEAN | 429 | 430 | 430 | 428 | 430 | 432 | 431 | 438 | 436 |
| GRE QUANTITATIVE MEAN | 435 | 435 | 436 | 436 | 442 | 439 | 437 | 445 | 445 |
| GRE ANALYTICAL MEAN | 452 | 446 | 454 | 457 | 465 | 468 | 469 | 474 | 473 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 4670 | 5255 | 3871 | 3175 | 2790 | 2979 | 3143 | 3294 | 3360 |
| % OF TOTAL EXAMINEES ** | 79.57 | 80.24 | 78.68 | 78.51 | 77.26 | 78.50 | 75.25 | 77.73 | 76.96 |
| % WHO ARE BLACK | 7.75 | 8.51 | 6.82 | 7.28 | 6.34 | 5.57 | 5.35 | 5.68 | 6.01 |
| % WHO ARE HISPANIC | 3.58 | 3.77 | 4.49 | 4.72 | 4.12 | 3.86 | 4.04 | 3.64 | 3.36 |
| % WHO ARE ASIAN AMERICAN | 0.56 | 0.48 | 0.41 | 0.57 | 0.65 | 0.81 | 0.89 | 0.88 | 1.31 |
| % PURSUING DOCTORATE | 31.41 | 31.97 | 31.21 | 32.63 | 30.39 | 30.85 | 29.14 | 31.60 | 30.74 |
| % OLDER THAN 30 | 25.91 | 44.36 | 37.90 | 40.26 | 41.14 | 44.16 | 46.41 | 50.15 | 50.86 |
| GRE VERBAL MEAN | 420 | 421 | 422 | 424 | 425 | 429 | 427 | 433 | 431 |
| GRE QUANTITATIVE MEAN | 459 | 458 | 460 | 463 | 465 | 461 | 466 | 469 | 469 |
| GRE ANALYTICAL MEAN | 442 | 434 | 440 | 446 | 451 | 462 | 465 | 465 | 466 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 16221 | 17047 | 13926 | 11467 | 11157 | 11546 | 13495 | 13286 | 13716 |
| % OF TOTAL EXAMINEES ** | 84.58 | 85.00 | 83.31 | 82.41 | 82.58 | 83.19 | 83.56 | 82.94 | 83.27 |
| % WHO ARE BLACK | 8.66 | 9.75 | 7.88 | 8.55 | 7.33 | 6.57 | 6.82 | 6.37 | 6.20 |
| % WHO ARE HISPANIC | 2.81 | 2.67 | 2.96 | 3.94 | 3.35 | 3.34 | 3.88 | 3.18 | 3.39 |
| % WHO ARE ASIAN AMERICAN | 0.81 | 0.60 | 0.69 | 0.72 | 0.69 | 0.62 | 0.73 | 0.80 | 0.93 |
| % PURSUING DOCTORATE | 15.71 | 15.16 | 16.24 | 17.59 | 16.72 | 17.11 | 15.52 | 16.71 | 16.48 |
| % OLDER THAN 30 | 25.27 | 33.83 | 32.93 | 35.40 | 33.40 | 34.46 | 38.29 | 40.53 | 41.90 |
| GRE VERBAL MEAN | 431 | 433 | 433 | 430 | 432 | 433 | 432 | 439 | 437 |
| GRE QUANTITATIVE MEAN | 429 | 428 | 429 | 429 | 436 | 434 | 431 | 439 | 439 |
| GRE ANALYTICAL MEAN | 455 | 451 | 458 | 460 | 468 | 469 | 471 | 476 | 475 |

*
DATA FOR 1979 NOT AVAILABLE

**
IN THAT UNDERGRADUATE MAJOR

TABLE 4.10

TRENDS TABLE FOR U.S. CITIZENS WITH SAME UGRAD. & GRAD. MAJOR: BUSINESS/PUBLIC ADMINISTRATION

MALES AND FEMALES

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 3821 | 4371 | 3449 | 2844 | 2406 | 2161 | 2381 | 2335 | 2510 |
| % OF TOTAL EXAMINEES ** | 61.82 | 65.39 | 59.27 | 56.01 | 52.13 | 49.12 | 48.46 | 45.53 | 43.04 |
| % WHO ARE FEMALE | 37.03 | 32.35 | 41.35 | 41.88 | 44.01 | 46.74 | 47.63 | 48.65 | 49.72 |
| % WHO ARE BLACK | 13.53 | 13.57 | 14.27 | 14.77 | 16.33 | 14.58 | 13.82 | 14.22 | 16.29 |
| % WHO ARE HISPANIC | 3.43 | 3.18 | 2.96 | 4.36 | 3.87 | 4.72 | 4.58 | 3.90 | 4.98 |
| % WHO ARE ASIAN AMERICAN | 1.28 | 1.30 | 1.39 | 1.37 | 1.25 | 1.43 | 1.47 | 1.24 | 1.67 |
| % PURSUING DOCTORATE | 16.46 | 18.74 | 17.02 | 15.75 | 16.67 | 17.26 | 16.17 | 17.52 | 15.41 |
| % OLDER THAN 30 | 16.18 | 26.99 | 24.17 | 24.36 | 25.35 | 28.44 | 28.33 | 29.70 | 30.96 |
| GRE VERBAL MEAN | 449 | 452 | 450 | 444 | 442 | 451 | 445 | 448 | 444 |
| GRE QUANTITATIVE MEAN | 496 | 502 | 494 | 489 | 482 | 483 | 481 | 483 | 476 |
| GRE ANALYTICAL MEAN | 484 | 481 | 485 | 483 | 483 | 494 | 492 | 497 | 491 |

MALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 2372 | 2939 | 2003 | 1623 | 1331 | 1142 | 1238 | 1187 | 1248 |
| % OF TOTAL EXAMINEES ** | 62.26 | 65.81 | 58.67 | 54.94 | 51.61 | 46.88 | 48.15 | 45.17 | 42.45 |
| % WHO ARE BLACK | 9.99 | 10.24 | 11.23 | 10.35 | 11.57 | 11.21 | 10.90 | 10.61 | 12.34 |
| % WHO ARE HISPANIC | 3.67 | 3.13 | 3.64 | 4.44 | 4.36 | 4.90 | 4.52 | 4.13 | 5.37 |
| % WHO ARE ASIAN AMERICAN | 1.18 | 1.09 | 1.50 | 1.46 | 1.13 | 1.23 | 1.05 | 1.60 | 1.68 |
| % PURSUING DOCTORATE | 17.54 | 19.56 | 17.32 | 15.96 | 19.01 | 18.30 | 17.69 | 19.63 | 19.15 |
| % OLDER THAN 30 | 18.18 | 29.71 | 26.68 | 28.00 | 29.95 | 32.60 | 29.39 | 32.96 | 35.10 |
| GRE VERBAL MEAN | 450 | 453 | 453 | 446 | 448 | 455 | 453 | 452 | 450 |
| GRE QUANTITATIVE MEAN | 515 | 517 | 515 | 509 | 504 | 499 | 506 | 507 | 499 |
| GRE ANALYTICAL MEAN | 487 | 484 | 489 | 479 | 482 | 495 | 498 | 500 | 497 |

FEMALES ONLY

YEAR OF GRE *

| | 1978 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NUMBER OF EXAMINEES | 1415 | 1414 | 1426 | 1191 | 1059 | 1010 | 1134 | 1136 | 1248 |
| % OF TOTAL EXAMINEES ** | 60.89 | 64.65 | 60.12 | 57.43 | 52.61 | 52.04 | 48.84 | 45.75 | 43.58 |
| % WHO ARE BLACK | 19.65 | 20.65 | 18.44 | 20.74 | 22.19 | 18.42 | 17.11 | 18.05 | 20.43 |
| % WHO ARE HISPANIC | 3.04 | 3.32 | 2.03 | 4.37 | 3.31 | 4.55 | 4.67 | 3.61 | 4.57 |
| % WHO ARE ASIAN AMERICAN | 1.34 | 1.77 | 1.26 | 1.26 | 1.42 | 1.68 | 1.94 | 0.88 | 1.68 |
| % PURSUING DOCTORATE | 14.70 | 16.90 | 16.48 | 15.45 | 13.60 | 16.24 | 14.37 | 15.32 | 13.70 |
| % OLDER THAN 30 | 12.79 | 21.36 | 20.48 | 19.14 | 19.47 | 23.63 | 27.22 | 26.33 | 26.77 |
| GRE VERBAL MEAN | 447 | 450 | 447 | 443 | 435 | 447 | 436 | 444 | 437 |
| GRE QUANTITATIVE MEAN | 465 | 472 | 464 | 463 | 454 | 466 | 453 | 457 | 453 |
| GRE ANALYTICAL MEAN | 479 | 474 | 480 | 489 | 484 | 494 | 485 | 494 | 484 |

*

DATA FOR 1979 NOT AVAILABLE

**

IN THAT UNDERGRADUATE MAJOR

BEST COPY AVAILABLE

Table 5.1: The relationship of GENDER to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Female, Each Group</u> | <u>Signif.</u> |
|------------------------------------|-----------------------|---------------|-----------------------------|----------------|
| Arts and Humanities | Changer | 8,258 | 68.4% | .000 |
| | Nonchanger | 15,259 | 54.2% | |
| Physical Science and Mathematics | Changer | 4,124 | 41.5% | .000 |
| | Nonchanger | 11,854 | 29.1% | |
| Engineering | Changer | 2,424 | 19.3% | .001 |
| | Nonchanger | 10,610 | 16.5% | |
| Biological Sciences | Changer | 6,298 | 59.6% | .000 |
| | Nonchanger | 6,277 | 50.3% | |
| Applied Biological Environ. Sci. | Changer | 1,289 | 43.7% | .000 |
| | Nonchanger | 1,748 | 32.2% | |
| Social Sciences | Changer | 13,449 | 61.3% | .000 |
| | Nonchanger | 22,216 | 56.1% | |
| Applied Social Sci. | Changer | 2,518 | 67.3% | .000 |
| | Nonchanger | 3,495 | 71.5% | |
| Health Sciences | Changer | 3,083 | 87.5% | .002 |
| | Nonchanger | 8,670 | 89.6% | |
| Education | Changer | 3,762 | 73.3% | .000 |
| | Nonchanger | 17,076 | 80.3% | |
| Business and Public Administration | Changer | 3,308 | 48.9% | .386 |
| | Nonchanger | 2,496 | 50.0% | |

Table 5.2: The relationship of ETHNICITY to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Non-White, Each Grp</u> | <u>Signif.</u> |
|------------------------------------|-----------------------|---------------|------------------------------|----------------|
| Arts and Humanities | Changer | 8,106 | 11.4% | .077 |
| | Nonchanger | 15,013 | 10.7% | |
| Physical Science and Mathematics | Changer | 4,074 | 15.7% | .000 |
| | Nonchanger | 11,693 | 13.3% | |
| Engineering | Changer | 2,402 | 16.0% | .000 |
| | Nonchanger | 10,489 | 19.0% | |
| Biological Sciences | Changer | 6,231 | 15.7% | .035 |
| | Nonchanger | 6,211 | 14.4% | |
| Applied Biological & Environ. Sci. | Changer | 1,275 | 8.9% | .092 |
| | Nonchanger | 1,723 | 7.3% | |
| Applied Social Sciences | Changer | 2,481 | 16.1% | .012 |
| | Nonchanger | 3,457 | 18.6% | |
| Social Sciences | Changer | 13,216 | 16.0% | .000 |
| | Nonchanger | 21,897 | 18.6% | |
| Education | Changer | 3,707 | 10.5% | .003 |
| | Nonchanger | 16,849 | 12.2% | |
| Business and Public Administration | Changer | 3,254 | 14.9% | .000 |
| | Nonchanger | 2,469 | 25.0% | |

Table 5.3: The relationship of BEING STILL IN OR ALREADY OUT OF COLLEGE to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Already Out of College</u> | <u>Signif.</u> |
|---|-----------------------|---------------|---------------------------------|----------------|
| Arts and Humanities | Changer | 8,233 | 80.3% | * |
| | Nonchanger | 15,216 | 57.4% | |
| Physical Science and Mathematics | Changer | 4,095 | 65.3% | * |
| | Nonchanger | 11,814 | 44.7% | |
| Engineering | Changer | 2,424 | 75.8% | * |
| | Nonchanger | 10,608 | 53.1% | |
| Biological Sciences | Changer | 6,280 | 57.9% | * |
| | Nonchanger | 6,267 | 43.3% | |
| Applied Biological and Environ. Science | Changer | 1,290 | 70.5% | * |
| | Nonchanger | 1,736 | 54.2% | |
| Social Sciences | Changer | 13,356 | 70.9% | * |
| | Nonchanger | 22,154 | 47.0% | |
| Applied Social Sci. | Changer | 2,501 | 78.9% | * |
| | Nonchanger | 3,485 | 55.7% | |
| Health Sciences | Changer | 3,060 | 87.6% | * |
| | Nonchanger | 8,598 | 74.0% | |
| Education | Changer | 3,733 | 78.7% | NS |
| | Nonchanger | 16,977 | 77.4% | |
| Business and Public Administration | Changer | 3,206 | 84.7% | * |
| | Nonchanger | 2,487 | 58.0% | |

* Significant at the .01 level

NS Not Significant

Table 5.4: The relationship of DEGREE OBJECTIVE to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Female, Each Group</u> | <u>Signif.</u> |
|---|-----------------------|---------------|-----------------------------|----------------|
| Arts and Humanities | Changer | 8,263 | 33.3% | * |
| | Nonchanger | 15,254 | 46.9% | |
| Physical Science and Mathematics | Changer | 4,119 | 41.2% | * |
| | Nonchanger | 11,852 | 51.7% | |
| Engineering | Changer | 2,430 | 31.1% | * |
| | Nonchanger | 10,614 | 28.5% | |
| Biological Sciences | Changer | 6,277 | 47.2% | * |
| | Nonchanger | 6,277 | 61.8% | |
| Applied Biological and Environ. Science | Changer | 1,290 | 40.5% | * |
| | Nonchanger | 1,742 | 29.9% | |
| Social Sciences | Changer | 13,456 | 30.7% | * |
| | Nonchanger | 22,256 | 66.1% | |
| Applied Social Sci. | Changer | 2,519 | 25.6% | * |
| | Nonchanger | 3,507 | 18.4% | |
| Health Sciences | Changer | 3,088 | 31.3% | * |
| | Nonchanger | 8,662 | 23.0% | |
| Education | Changer | 3,769 | 29.3% | * |
| | Nonchanger | 17,102 | 19.4% | |
| Business and Public Administration | Changer | 3,317 | 28.6% | * |
| | Nonchanger | 2,508 | 16.4% | |

* Significant at the .01 level

NS Not significant

Table 5.5: The relationship of UNDERGRADUATE GPA IN MAJOR on the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% A or A- GPA, Each Grp</u> | <u>Signif.</u> |
|---|-----------------------|---------------|--------------------------------|----------------|
| Arts and Humanities | Changer | 8,137 | 47.4% | * |
| | Nonchanger | 15,140 | 63.7% | |
| Physical Science and Mathematics | Changer | 4,084 | 37.2% | * |
| | Nonchanger | 11,767 | 51.6% | |
| Engineering | Changer | 2,398 | 34.2% | * |
| | Nonchanger | 10,517 | 46.2% | |
| Biological Sciences | Changer | 6,269 | 34.4% | * |
| | Nonchanger | 6,247 | 39.9% | |
| Applied Biological and Environ. Science | Changer | 1,278 | 36.9% | * |
| | Nonchanger | 1,736 | 42.6% | |
| Social Sciences | Changer | 13,321 | 40.8% | * |
| | Nonchanger | 22,099 | 56.5% | |
| Applied Social Sci. | Changer | 2,498 | 40.4% | * |
| | Nonchanger | 3,470 | 48.3% | |
| Health Sciences | Changer | 3,063 | 37.9% | * |
| | Nonchanger | 8,608 | 41.6% | |
| Education | Changer | 3,730 | 43.7% | NS |
| | Nonchanger | 16,944 | 41.7% | |
| Business and Public Administration | Changer | 3,295 | 34.1% | NS |
| | Nonchanger | 2,484 | 33.9% | |

Significant at the .01 level

NS Not Significant

*

Table 5.6: The relationship of FATHER'S EDUCATION to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Fathers B.A. or above</u> | <u>Signif.</u> |
|---|-----------------------|---------------|--------------------------------|----------------|
| Arts and Humanities | Changer | 8,186 | 49.1% | * |
| | Nonchanger | 15,133 | 55.0% | |
| Physical Science and Mathematics | Changer | 4,077 | 50.1% | * |
| | Nonchanger | 11,747 | 52.6% | |
| Engineering | Changer | 2,402 | 54.7% | NS |
| | Nonchanger | 10,472 | 55.6% | |
| Biological Sciences | Changer | 6,260 | 51.2% | NS |
| | Nonchanger | 6,238 | 52.5% | |
| Applied Biological and Environ. Science | Changer | 1,290 | 49.2% | * |
| | Nonchanger | 1,737 | 43.8% | |
| Social Sciences | Changer | 13,316 | 46.8% | * |
| | Nonchanger | 22,086 | 50.1% | |
| Applied Social Sci. | Changer | 2,505 | 44.3% | NS |
| | Nonchanger | 3,472 | 43.2% | |
| Health Sciences | Changer | 3,060 | 39.9% | * |
| | Nonchanger | 8,611 | 37.2% | |
| Education | Changer | 3,740 | 38.8% | * |
| | Nonchanger | 16,931 | 33.1% | |
| Business and Public Administration | Changer | 3,288 | 42.8% | * |
| | Nonchanger | 2,475 | 35.3% | |

* Significant at the .01 level

NS Not Significant

Table 5.7: The relationship of HOURS OF COMMUNITY SERVICE to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>% Some Community Serv.</u> | <u>Signif.</u> |
|---|-----------------------|---------------|-------------------------------|----------------|
| Arts and Humanities | Changer | 8,099 | 63.0% | * |
| | Nonchanger | 15,088 | 55.2% | |
| Physical Science and Mathematics | Changer | 4,062 | 54.4% | * |
| | Nonchanger | 11,727 | 43.9% | |
| Engineering | Changer | 2,387 | 47.5% | NS |
| | Nonchanger | 10,464 | 45.1% | |
| Biological Sciences | Changer | 6,230 | 61.4% | * |
| | Nonchanger | 6,238 | 51.3% | |
| Applied Biological and Environ. Science | Changer | 1,279 | 59.2% | NS |
| | Nonchanger | 1,734 | 56.7% | |
| Social Sciences | Changer | 13,264 | 66.7% | * |
| | Nonchanger | 22,043 | 61.5% | |
| Applied Social Sci. | Changer | 2,491 | 69.7% | NS |
| | Nonchanger | 3,477 | 70.5% | |
| Health Sciences | Changer | 3,034 | 66.9% | NS |
| | Nonchanger | 8,566 | 65.6% | |
| Education | Changer | 3,703 | 68.5% | * |
| | Nonchanger | 16,827 | 71.7% | |
| Business and Public Administration | Changer | 3,279 | 62.1% | NS |
| | Nonchanger | 2,484 | 64.5% | |

* Significant at the .01 level

NS Not Significant

Table 5.8: The relationship of GRE SCORES to the decision to change from each of ten undergraduate fields to another graduate field for GRE examinees in 1987

| <u>Undergraduate Field</u> | <u>Change or Not?</u> | <u>Base N</u> | <u>GREV(sig)</u> | <u>GREQ(sig)</u> | <u>GREa(sig)</u> |
|---|-----------------------|---------------|------------------|------------------|------------------|
| Arts and Humanities | Changer | 8,298 | 548 (NS) | 499 (*) | 529 (*) |
| | Nonchanger | 15,322 | 548 | 512 | 547 |
| Physical Science and Mathematics | Changer | 4,138 | 527 (NS) | 634 (*) | 590 (*) |
| | Nonchanger | 11,894 | 530 | 654 | 615 |
| Engineering | Changer | 2,443 | 535 (*) | 669 (*) | 603 (*) |
| | Nonchanger | 10,652 | 512 | 684 | 611 |
| Biological Sciences | Changer | 6,331 | 515 (NS) | 565 (*) | 562 (*) |
| | Nonchanger | 6,304 | 517 | 578 | 577 |
| Applied Biological and Environ. Science | Changer | 1,297 | 504 (*) | 544 (NS) | 547 (NS) |
| | Nonchanger | 1,751 | 482 | 546 | 546 |
| Social Sciences | Changer | 13,504 | 509 (*) | 493 (*) | 520 (*) |
| | Nonchanger | 22,310 | 521 | 517 | 545 |
| Applied Social Sci. | Changer | 2,526 | 489 (*) | 461 (*) | 503 (*) |
| | Nonchanger | 3,513 | 463 | 442 | 491 |
| Health Sciences | Changer | 3,099 | 486 (*) | 478 (NS) | 505 (NS) |
| | Nonchanger | 8,701 | 475 | 481 | 509 |
| Education | Changer | 3,781 | 478 (*) | 475 (*) | 500 (*) |
| | Nonchanger | 17,154 | 435 | 444 | 473 |
| Business and Public Administration | Changer | 3,322 | 478 (*) | 511 (*) | 518 (*) |
| | Nonchanger | 2,510 | 443 | 476 | 491 |

* Significant at the .01 level

NS Not Significant

Appendix A

Data Set Record Layout for Individual Examinee Data Base

DATA SET RECORD LAYOUT

DATA SET NAME: TJJ6600.GREDBASE.DATA__

RECORD LENGTH: 39

BLOCKING FACTOR: 800

| START | END | SIZE | FIELD NAME | VALUE RANGE | COMMENTS |
|-------|-----|------|----------------------------|-------------|----------|
| 1 | 1 | 1 | Sex | 1,2 | 1=Male |
| 2 | 2 | 1 | Education Level | 1-8 | |
| 3 | 4 | 2 | Testing Year | 78-87 | |
| 5 | 7 | 3 | GRE Verbal Score | 200-800 | |
| 8 | 10 | 3 | GRE Quantitative Score | 200-800 | |
| 11 | 13 | 3 | GRE Analytical Score | 200-800 | |
| 14 | 14 | 1 | Previous GRE | 1-3 | BQA |
| 15 | 15 | 1 | U.S. Citizenship | 1,2 | BQB1 |
| 16 | 16 | 1 | Ethnicity | 1-8 | BQD |
| 17 | 17 | 1 | English Best Language | 1,2 | BQE1 |
| 18 | 19 | 2 | Year of Bachelor's Degree | 00-99 | BQH |
| 20 | 22 | 3 | Undergraduate Major | 00-99 | BQI |
| 23 | 23 | 1 | Degree Objective | 1-5 | BQJ |
| 24 | 26 | 3 | Graduate Major | 00-99 | BQK |
| 27 | 27 | 1 | Undergraduate Major GPA | 1-7 | BQO |
| 28 | 28 | 1 | Last 2 years GPA | 1-7 | BQP |
| 29 | 29 | 1 | Hours Worked for Pay | 1-5 | BQR |
| 30 | 30 | 1 | Hours of Community Service | 1-5 | BQS |
| 31 | 31 | 1 | Most Important Honor | 1-8 | BQT |
| 32 | 32 | 1 | Father's Education Level | 1-6 | BQU |
| 33 | 33 | 1 | Mother's Education Level | 1-6 | BQV |
| 34 | 39 | 6 | Date of Birth | MMDDYY | |

Appendix B

Revised Major Field Code Numbers

Revised Major Field Code Numbers

| | |
|----------------------------|-----------------------------------|
| 1 Mathematics | 51 Public Health |
| 2 Applied Mathematics | 52 Hospital/Health Administration |
| 3 Statistics | 53 Public Administration |
| 4 Physics | 54 Urban Development |
| 5 Astronomy | 55 Geography |
| 6 Geology | 56 Govt/Political Science |
| 7 Oceanography | 57 History |
| 8 Chemistry | 58 International Relations |
| 9 Computer Science | 59 Law |
| 10 Metallurgy | 60 Industrial Relations/Personnel |
| 11 Other Phys Science | 61 Business/Commerce |
| 12 Engineering, Aerospace | 62 Economics |
| 13 Engineering, Chemical | 63 American Studies |
| 14 Engineering, Civil | 64 Anthropology |
| 15 Engineering, Electrical | 65 Sociology |
| 16 Engineering, Industrial | 66 Social Work |
| 17 Engineering, Mechanical | 67 Educational Psychology |
| 18 Engineering, Other | 68 Psychology |
| 19 Biology | 69 Social Psychology |
| 20 Biochemistry | 70 Communications |
| 21 Biophysics | 71 Journalism |
| 22 Botany | 72 Library Science |
| 23 Genetics | 73 Other Social Science |
| 24 Zoology | 74 Education |
| 25 Entomology | 75 Education Administration |
| 26 Anatomy | 76 Physical Education |
| 27 Microbiology | 77 Guidance/Counseling |
| 28 Parasitology | 78 Speech |
| 29 Physiology | 79 English |
| 30 Molecular/Cell Biology | 80 Italian |
| 31 Bacteriology | 81 French |
| 32 Agriculture | 82 German |
| 33 Mining | 83 Russian |
| 34 Forestry | 84 Slavic Studies |
| 35 Environmental Science | 85 Spanish |
| 36 Audiology | 86 Far Eastern Languages |
| 37 Physical Therapy | 87 Near Eastern Languages |
| 38 Occupational Therapy | 88 Classical Languages |
| 39 Nutrition | 89 Other Foreign Languages |
| 40 Home Economics | 90 Linguistics |
| 41 Dentistry | 91 Comparative Literature |
| 42 Medicine | 92 Religious Studies |
| 43 Optometry | 93 Philosophy |
| 44 Osteopathy | 94 Art History |
| 45 Nursing | 95 Architecture |
| 46 Pathology | 96 Archaeology |
| 47 Pharmacology | 97 Fine Arts/Design |
| 48 Pharmacy | 98 Dramatic Arts |
| 49 Veterinary Medicine | 99 Music |
| 50 Other Biol Science | 100 Other Humanities |
| | 101 Other Field |

Appendix C

Sample of the Matrix of Detailed Major Fields:
Of Those Examinees Planning to Earn a Doctorate,
the Percentage in 1987 Who Were Female

Of all examinees with a B.S. in math, intending to earn a doctorate in math, 33% were female.

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS) THOSE CONSIDERING DOCTORAL OR POSTDOCTORAL STUDY PERCENT OF FEMALE STUDENTS 1987

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|-----|----|-----|-----|----|----|----|----|
| 1 MATHEMATICS | 33 | 42 | 0 | 18 | 0 | 100 | 0 | 50 | 29 | 0 | 0 | 0 | 0 | 0 | 7 | 50 | 25 | 0 | 40 | 100 | 0 | 0 | 0 | 0 |
| 2 APPLIED MATH | 27 | 35 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 STATISTICS | 44 | 75 | 38 | 0 | 0 | 0 | 0 | 100 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 |
| 4 PHYSICS | 18 | 50 | 0 | 16 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 ASTRONOMY | 0 | 0 | 0 | 25 | 11 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 GEOLOGY | 33 | 0 | 0 | 33 | 0 | 34 | 83 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 OCEANOGRAPHY | 50 | 0 | 0 | 23 | 0 | 34 | 100 | 0 | 100 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 CHEMISTRY | 23 | 12 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 100 | 55 | 42 | 0 | 0 | 0 | 0 | 0 |
| 9 METALLURGY | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 OTHER PHYS. SCIENCE | 156 | 100 | 0 | 27 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 ENGINEERING, CIVIL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 ENGINEERING, CHEMICAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 ENGINEERING, ELECTRIC | 100 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 ENGINEERING, MECHANICAL | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 ENGINEERING, OTHER | 60 | 33 | 0 | 0 | 0 | 0 | 0 | 100 | 50 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 BIOLOGY | 25 | 0 | 0 | 33 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 BIOCHEMISTRY | 20 | 0 | 0 | 33 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 BIOPHYSICS | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 BOTANY | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 ZOOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 ENTOMOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 ANATOMY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 MICROBIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 PARASITOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 PHYSIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 MOLECULAR & CELL BIO. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 BACTERIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 AGRICULTURE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 MINING | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 FORESTRY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 ENVIRONMENTAL SCIENCE | 100 | 100 | 0 | 25 | 0 | 41 | 100 | 50 | 0 | 0 | 100 | 100 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 AUDIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 PHYSICAL THERAPY | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 OCCUPATIONAL THERAPY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 NUTRITION | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 HOME ECONOMICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 DENTISTRY | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 38 OPTOMETRY | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 OSTEOPATHY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 NURSING | 100 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41 PHARMACOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 PHARMACY | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 VETERINARY MEDICINE | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 PUBLIC HEALTH SC. | 50 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 HOSPITAL & HEALTH SERVICE | 56 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 PUBLIC ADMINISTRATION | 100 | 100 | 0 | 33 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 URBAN DEVELOPMENT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 GOVERNMENT/POL. SCI. | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49 HISTORY | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 INTERNATIONAL RELAT. | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 INDUSTR. REL./PERSONNEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 BUSINESS & COMMERCE | 17 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 53 ECONOMICS | 41 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 AMERICAN STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 ANTHROPOLOGY | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

1.0

NOT CORRECT

Of those examinees with a B.S. in biology and planning a doctorate in

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS)
(CONTINUED FROM PREVIOUS PAGE)
PERCENT OF FEMALE STUDENTS
1987

UNDERGRADUATE MAJORS ARE NUMBERED TO CORRESPOND TO GRADUATE FIELDS ON LEFT

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|--------------------------|-----|-----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 65 SOCIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 SOCIAL WORK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 EDUC. PSYCHOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 PSYCHOLOGY | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 SOCIAL PSYCHOLOGY | 71 | 0 | 0 | 25 | 0 | 60 | 0 | 72 | 32 | 0 | 0 | 100 | 50 | 0 | 28 | 0 | 100 | 36 | 75 | 16 | 0 | 67 | 75 | 3 | 0 |
| 70 COMMUNICATIONS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 JOURNALISM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 LIBRARY SCIENCE | 50 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 OTHER SOCIAL SCIENCE | 50 | 100 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 EDUCATION | 50 | 100 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 EDUCATIONAL ADMIN. | 47 | 100 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 PHYSICAL EDUCATION | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 COUNSELING | 100 | 0 | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 ENGLISH | 100 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 ENGLISH | 100 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 ENGLISH | 100 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 FRENCH | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 GERMAN | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 RUSSIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 SLAVIC STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 SPANISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 FAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 NEAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 CLASSICAL LANGUAGE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 OTHER FOREIGN LANG. | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 LINGUISTICS | 29 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 91 COMPARATIVE LIT. | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 92 RELIG. STUDIES/RELIG. | 40 | 0 | 0 | 4 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 PHILOSOPHY | 33 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 ART HISTORY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 ARCHITECTURE | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 ARCHAEOLOGY | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 FINE ARTS, ART DESIGN | 100 | 0 | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 DRAMATIC ARTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 MUSIC | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 OTHER HUMANITIES | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 OTHER | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 TOTAL | 36 | 35 | 34 | 17 | 11 | 32 | 42 | 34 | 19 | 26 | 18 | 7 | 29 | 21 | 11 | 31 | 13 | 23 | 52 | 44 | 29 | 39 | 51 | 42 | 26 |

(Of all examinees with a B.S. in

physics, planning to earn a

doctorate, 17% were women.

(Of all examinees with a

B.S. in genetics, planning

to earn a doctorate, 54%

were female.

1981

1981

1981

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS)
(CONTINUED FROM PREVIOUS PAGE)
PERCENT OF FEMALE STUDENTS
1987

UNDERGRADUATE MAJORS ARE NUMBERED TO CORRESPOND TO GRADUATE FIELDS ON LEFT

| | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|--------------------------|-----|-----|----|-----|-----|----|----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| 65 SOCIOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 66 EDUC. WORK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 67 EDUC. PSYCHOLOGY | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 68 PSYCHOLOGY | 0 | 29 | 0 | 60 | 50 | 67 | 75 | 0 | 33 | 71 | 0 | 80 | 90 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 75 | 0 | 100 |
| 69 SOCIAL PSYCHOLOGY | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 70 COMMUNICATIONS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 JOURNALISM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 LIBRARY SCIENCE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 OTHER SOCIAL SCIENCE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 EDUCATION | 0 | 100 | 0 | 50 | 100 | 0 | 33 | 0 | 100 | 50 | 100 | 100 | 100 | 75 | 80 | 97 | 100 | 33 | 0 | 96 | 0 | 0 | 67 | 100 | 100 |
| 75 EDUCATIONAL ADMIN. | 0 | 67 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 33 | 100 | 100 | 100 | 67 | 100 | 97 | 100 | 33 | 0 | 96 | 0 | 0 | 67 | 100 | 100 |
| 76 PHYSICAL EDUCATION | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 GUIDANCE & COUNSELING | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 SPEECH | 100 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 ENGLISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 ITALIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 FRENCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 GERMAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 RUSSIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 SLAVIC STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 SPANISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 FAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 NEAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 CLASSICAL LANGUAGE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 OTHER FOREIGN LANG. | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 LINGUISTICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 91 COMPARATIVE LIT. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 92 RELIG. STUDIES/RELIG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 PHILOSOPHY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 ART HISTORY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 ARCHITECTURE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 ARCHAELOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 FINE ARTS, ART DESIGN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 DRAMATIC ARTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 MUSIC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 OTHER HUMANITIES | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 OTHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 TOTAL | 31 | 48 | 0 | 45 | 42 | 55 | 37 | 0 | 24 | 45 | 78 | 70 | 80 | 88 | 96 | 96 | 31 | 52 | 0 | 94 | 73 | 31 | 42 | 63 | 61 |

3

1987-

1987-

1987-

Of all expanees with a bachelor's degree in psychology, planning to earn a doctorate in psychology, 67% were women.

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS)
(CONTINUED FROM PREVIOUS PAGE)
PERCENT OF FEMALE STUDENTS
1987

UNDERGRADUATE MAJORS ARE NUMBERED TO CORRESPOND TO GRADUATE FIELDS ON LEFT

| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
|--------------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 65 SOCIOLOGY | 0 | 100 | 50 | 0 | 100 | 35 | 50 | 67 | 50 | 0 | 43 | 33 | 100 | 27 | 61 | 86 | 100 | 50 | 47 | 25 | 50 | 0 | 53 | 64 | 100 | 100 |
| 66 SOCIAL WORK | 0 | 0 | 67 | 100 | 0 | 100 | 80 | 44 | 0 | 50 | 0 | 100 | 33 | 0 | 75 | 69 | 82 | 75 | 81 | 0 | 0 | 0 | 67 | 88 | 0 | 100 |
| 67 EDUC. PSYCHOLOGY | 100 | 100 | 0 | 100 | 100 | 38 | 67 | 100 | 0 | 0 | 64 | 33 | 0 | 100 | 41 | 65 | 65 | 71 | 50 | 100 | 100 | 100 | 67 | 83 | 100 | 33 |
| 68 PSYCHOLOGY | 0 | 0 | 100 | 100 | 0 | 67 | 46 | 80 | 67 | 75 | 49 | 59 | 40 | 73 | 71 | 75 | 58 | 65 | 65 | 74 | 0 | 73 | 86 | 100 | 65 | |
| 69 SOCIAL PSYCHOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 25 | 0 | 0 | 75 | 73 | 0 | 0 | 100 | 85 | 100 | 57 | 57 | 100 | 0 | 0 | 60 | 88 | 0 | |
| 70 COMMUNICATIONS | 0 | 100 | 100 | 0 | 0 | 0 | 38 | 44 | 0 | 100 | 42 | 50 | 0 | 0 | 67 | 50 | 100 | 57 | 50 | 55 | 66 | 0 | 40 | 67 | 0 | |
| 71 JOURNALISM | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 29 | 50 | 100 | 0 | 0 | 0 | 100 | 100 | 0 | 0 | 50 | 0 | 69 | 61 | 100 | 50 | 0 | 0 | |
| 72 LIBRARY SCIENCE | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 61 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 50 | 50 | 89 | 50 | 76 | 0 | |
| 73 OTHER SOCIAL SCIENCE | 0 | 0 | 100 | 100 | 0 | 0 | 67 | 61 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 50 | 50 | 89 | 50 | 76 | 0 | |
| 74 EDUCATION | 50 | 50 | 100 | 0 | 40 | 38 | 40 | 83 | 67 | 20 | 53 | 29 | 50 | 62 | 65 | 63 | 70 | 74 | 77 | 47 | 39 | 50 | 48 | 78 | 100 | |
| 75 EDUCATIONAL ADMIN. | 100 | 0 | 150 | 0 | 50 | 0 | 0 | 0 | 0 | 50 | 30 | 19 | 73 | 50 | 58 | 67 | 71 | 49 | 83 | 58 | 75 | 100 | 59 | 58 | 37 | |
| 76 PHYSICAL EDUCATION | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 38 | 50 | 0 | 0 | 100 | 100 | 0 | 35 | 0 | 33 | 0 | 67 | 39 | 0 | 48 | |
| 77 GUIDANCE & COUNSELING | 0 | 100 | 50 | 0 | 50 | 33 | 46 | 67 | 25 | 0 | 43 | 67 | 0 | 75 | 58 | 92 | 71 | 64 | 59 | 80 | 75 | 0 | 62 | 83 | 0 | |
| 78 SPEECH | 0 | 0 | 0 | 0 | 0 | 64 | 52 | 40 | 0 | 25 | 44 | 47 | 88 | 0 | 83 | 100 | 100 | 82 | 80 | 52 | 71 | 100 | 100 | 67 | 0 | |
| 79 ENGLISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 80 ITALIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 81 FRENCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 82 GERMAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 83 RUSSIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 84 SLAVIC STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 85 SPANISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 86 FAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 87 NEAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 88 CLASSICAL LANGUAGE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 89 OTHER FOREIGN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 90 LINGUISTICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 91 COMPARATIVE LIT. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 92 RELIG. STUDIES/RELIG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 93 PHILOSOPHY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 94 ART HISTORY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 95 ARCHITECTURE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 96 ARCHAEOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 97 FINE ARTS, ART DESIGN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 98 DRAMATIC ARTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 99 MUSIC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 100 OTHER HUMANITIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 101 OTHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| 102 TOTAL | 63 | 51 | 40 | 68 | 35 | 38 | 36 | 51 | 42 | 54 | 39 | 36 | 58 | 60 | 62 | 75 | 64 | 66 | 60 | 54 | 62 | 75 | 56 | 72 | 44 | 48 |

Regardless of undergraduate major, 32% of all examinees planning to earn a doctorate in mathematics were female

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS)
(CONTINUED FROM PREVIOUS PAGE)
PERCENT OF FEMALE STUDENTS

UNDERGRADUATE MAJORS ARE NUMBERED TO CORRESPOND TO GRADUATE FIELDS ON LEFT

| | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 |
|--------------------------|----|----|-----|----|----|----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|----|----|----|-----|-----|-----|
| 1 MATHEMATICS | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 2 APPLIED MATH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 3 STATISTICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 4 PHYSICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 5 ASTRONOMY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 6 GEOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 7 OCEANOGRAPHY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 8 CHEMISTRY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 9 COMPUTER SCIENCE | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 10 METALLURGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 11 OTHER PHY. SCIENCE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 12 ENGIN., AERONAUTICAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 13 ENGINEERING, CHEMICAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 14 ENGINEERING, CIVIL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 15 ENGINEERING, ELECTR. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 16 ENGINEERING, INDUST. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 17 ENGINEERING, MECHAN. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 18 ENGINEERING, OTHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 19 BIOLOGY | 0 | 0 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 20 BIOCHEMISTRY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 21 BIOPHYSICS | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 22 BOTANY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 23 GENETICS | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 24 ZOOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 25 ENTOMOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 26 ANATOMY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 27 MICROBIOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 28 PARASITOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 29 PHYSIOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 30 MOLECULAR & CELL BIO. | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 31 BACTERIOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 32 AGRICULTURE | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 33 MINING | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 34 FORESTRY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 35 ENVIRONMENTAL SCIENCE | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 36 AUDIOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 37 PHYSICAL THERAPY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 38 OCCUPATIONAL THERAPY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 39 NUTRITION | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 40 ECONOMICS | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 41 DENTISTRY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 42 MEDICINE | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 43 ODONTOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 44 OPTOMETRY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 45 NURSING | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 46 PATHOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 47 PHARMACOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 48 PHARMACY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 49 VETERINARY MEDICINE | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 50 OTHER BIOLOGICAL SC. | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 51 PUBLIC HEALTH | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 52 HOSP/HEALTH SERVICE A | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 53 PUBLIC ADMINISTRATION | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 54 URBAN DEVELOPMENT | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 55 GEOGRAPHY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 56 GOVERNMENT/POL. SCI. | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 57 HISTORY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 58 INTERNATIONAL RELAT. | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 59 LAW | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 60 INDUST. REL/PERSONNEL | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 61 BUSINESS & COMMERCE | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 62 ECONOMICS | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 63 AMERICAN STUDIES | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |
| 64 ANTHROPOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 102 |

Only 89% of all examinees planning a doctorate in aeronautical engineering were female.

STUDENT FLOW FROM UNDERGRADUATE MAJORS (COLUMNS) TO GRADUATE FIELD OF INTEREST (ROWS)
(CONTINUED FROM PREVIOUS PAGE)
PERCENT OF FEMALE STUDENTS
1987

UNDERGRADUATE MAJORS ARE NUMBERED TO CORRESPOND TO GRADUATE FIELDS ON LEFT

| | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 |
|--------------------------|-----|-----|-----|----|-----|-----|-----|----|-----|-----|----|----|-----|-----|----|----|----|-----|----|----|-----|-----|-----|-----|-----|-----|
| 65 SOCIOLOGY | 0 | 100 | 55 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 50 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 100 | 50 | 0 | 58 |
| 66 SOCIAL WORK | 100 | 100 | 87 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 95 | |
| 67 EDUC. PSYCHOLOGY | 86 | 92 | 58 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 75 | |
| 68 PSYCHOLOGY | 80 | 83 | 69 | 0 | 82 | 83 | 100 | 0 | 0 | 100 | 0 | 0 | 50 | 67 | 86 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 100 | 0 | 72 | |
| 69 SOCIAL PSYCHOLOGY | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 70 | | |
| 70 COMMUNICATIONS | 0 | 39 | 74 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 27 | | |
| 71 JOURNALISM | 0 | 100 | 82 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 55 | |
| 72 LIBRARY SCIENCE | 0 | 100 | 82 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 66 | |
| 73 OTHER SOCIAL SCIENCE | 100 | 33 | 53 | 0 | 50 | 60 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 80 | 57 | 17 | 100 | |
| 74 EDUCATIONAL ADMIN. | 150 | 71 | 72 | 0 | 77 | 60 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 100 | 50 | 58 | |
| 75 PHYSICAL EDUCATION | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 47 | 55 | 82 | 68 | |
| 76 GUIDANCE & COUNSELING | 62 | 43 | 79 | 0 | 50 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 57 | 50 | 75 | 51 | |
| 77 SPEECH | 0 | 81 | 69 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 100 | 82 | 60 | 58 | |
| 78 ENGLISH | 0 | 75 | 61 | 0 | 80 | 33 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 60 | 73 | 30 | 100 | 0 | 0 | 100 | 89 | 72 | 80 | 63 | 47 |
| 79 FRENCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 80 GERMAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 100 | 100 | 0 | |
| 81 RUSSIAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 82 SLAVIC STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 83 SPANISH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 84 FAR EASTERN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 85 CLASSICAL LANGUAGE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 86 OTHER FOREIGN LANG. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 87 LINGUISTICS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 88 COMPARATIVE LIT. | 100 | 17 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 89 RELIG. STUDIES/RELIG. | 0 | 100 | 70 | 0 | 33 | 67 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 90 PHILOSOPHY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 91 ART HISTORY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 92 ARCHITECTURE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 93 PHILOLOGY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 94 FINE ARTS, ART DESIGN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 95 DRAMATIC ARTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 96 MUSIC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 97 OTHER HUMANITIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | |
| 100 TOTAL | 100 | 33 | 68 | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 101 TOTAL | 71 | 73 | 63 | 0 | 70 | 57 | 54 | 0 | 70 | 44 | 49 | 50 | 69 | 61 | 71 | 24 | 27 | 77 | 27 | 59 | 68 | 59 | 46 | 62 | 53 | |

Half of all graduates planning
to earn a doctorate were female.

105

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Appendix D

File Names of Matrices

| <u>File Name and File Location</u> | <u>Population Included</u> | <u>Variables</u> |
|--|--|--|
| TJJ6600.GREDBASE.DATA78 TJJ6600.GREDBASE.DATA80 TJJ6600.GREDBASE.DATA81 toDATA87 On K36891 (exp. Dec. 1994) | U.S. citizen GRE-takers with ugrad. and grad. majors. A stripped-down, 39-character file for each year. These are the raw data used to create tables. | GRE scores and B.Q. responses |
| TJJ6600.GREDBASE.AGEADV78 TJJ6600.GREDBASE.AGEADV80 TJJ6600.GREDBASE.AGEADV81 toAGEADV87 On K16992 (exp. July 1996) | U.S. citizen GRE-takers with ugrad. and grad. majors. Matrices are 102 x 102 for each of the specific majors plus marginals. Populations are total and male, female and doctorate. | Mean age N over 30 N aspire to doctorate |
| NJT6600.BIGTAB.Y78TO87 On K05318 (exp. July 1996) | All U.S. citizens with GRE scores and specified graduate and under- graduate majors. Data are arranged by years 1978 to 1987 within variable. A 102 x 102 matrix. | Counts GRE-Verbal mean GRE-Quant. mean GRE-Analyt. mean % Black % Hispanic % Asian American |
| NJT6600.SHORTTAB.Y78TO87 On K05318 (exp. July 1996) | All U.S. citizens with GRE scores and specified graduate and under- graduate majors. Data are arranged by year 1978 to 1987 within variable. An 11 x 11 table of broad major categories. | Counts GRE-V mean GRE-Q mean GRE-A mean N Black N Hispanic N Asian N Male N Female % Black % Hispanic % Asian % Male % Female |
| All of the following files also reside on K05318 and are prefaced by NJT6600. | | |
| SHORTFEM.Y78TO87 | Females with above characteristics for years 1978 to 1987. | Each year within same 14 variables. |
| SHORTMAL.Y78TO87 | Males with above characteristics for years 1978 to 1987. | Each year within same 14 variables. |
| SHORTABD.Y78TO87 | Doctoral candidates with above characteristics for 1978 to 1987. | Each year within same 14 variables. |
| SHORTFEM.Y78TO87D | Female doctoral candidates. | Each year within same 14 variables. |

| | | |
|------------------|--|---|
| SHORTMAL.Y78TO87 | Male doctoral candidates. | Each year within same 14 variables. |
| MOMTABLE.Y78TO87 | All U.S. citizens with GRE scores and specified graduate and undergraduate majors, 1978 to 1987. | N fathers B.A. N fathers grad. N mothers B.A. N mothers grad. N examinees > 30 % fathers B.A. % fathers grad. % mothers B.A. % mothers grad. % examinees > 30 Mean GPA in major Mean GPA last 2 yr Same 13 variables. |
| MOMFEM.Y78TO87 | Females with above characteristics | |
| MOMMAL.Y78TO87 | Males with above characteristics. | Same 13 variables. |
| TOTALMAT.Y78TO87 | All U.S. citizens with above characteristics. (Used for trend tables) | Counts % of total % female % Black % Hispanic % Asian American % pursuing Ph.D. % older than 30 GRE Verbal Mean GRE Quant. Mean GRE Analyt. Mean |
| TOTALFEM.Y78TO87 | Females with above characteristics. (Used for trend tables). | Above 11 variables. |
| TOTALMAL.Y78TO87 | Males with above characteristics. (Used for trend tables). | Above 11 variables. |

Appendix E

Broad Major Field Definitions

Broad Major Field Definitions

I. Arts/Humanities

- | | |
|----------------------------|---------------------------|
| 79 English | 90 Linguistics |
| 80 Italian | 91 Comparative Literature |
| 81 French | 92 Religious Studies |
| 82 German | 93 Philosophy |
| 83 Russian | 94 Art History |
| 84 Slavic Studies | 95 Architecture |
| 85 Spanish | 96 Archaeology |
| 86 Far Eastern Languages | 97 Fine Arts/Design |
| 87 Near Eastern Languages | 98 Dramatic Arts |
| 88 Classical Languages | 99 Music |
| 89 Other Foreign Languages | 100 Other Humanities |

II. Physical Sciences/Mathematics

- | | |
|-----------------------|-----------------------|
| 1 Mathematics | 7 Oceanography |
| 2 Applied Mathematics | 8 Chemistry |
| 3 Statistics | 9 Computer Science |
| 4 Physics | 10 Metallurgy |
| 5 Astronomy | 11 Other Phys Science |
| 6 Geology | |

III. Engineering

- | | |
|----------------------------|----------------------------|
| 12 Engineering, Aerospace | 16 Engineering, Industrial |
| 13 Engineering, Chemical | 17 Engineering, Mechanical |
| 14 Engineering, Civil | 18 Engineering, Other |
| 15 Engineering, Electrical | |

IV. Biological Sciences

- | | |
|-----------------|-----------------------------|
| 19 Biology | 27 Microbiology |
| 20 Biochemistry | 28 Parasitology |
| 21 Biophysics | 29 Physiology |
| 22 Botany | 30 Molecular/Cell Biology |
| 23 Genetics | 50 Other Biological Science |
| 24 Zoology | |

V. Applied Biological/Environmental Sciences

- | | |
|----------------|--------------------------|
| 25 Entomology | 34 Forestry |
| 32 Agriculture | 35 Environmental Science |
| 33 Mining | |

VI. Social Sciences

| | |
|----------------------------|-------------------------|
| 54 Urban Development | 63 American Studies |
| 55 Geography | 64 Anthropology |
| 56 Govt/Political Science | 65 Sociology |
| 57 History | 68 Psychology |
| 58 International Relations | 69 Social Psychology |
| 62 Economics | 73 Other Social Science |

VII. Applied Social Sciences

| | |
|-------------------|--------------------|
| 66 Social Work | 71 Journalism |
| 70 Communications | 72 Library Science |

VIII. Health Sciences/Services

| | |
|-------------------------|------------------------|
| 26 Anatomy | 42 Medicine |
| 31 Bacteriology | 43 Optometry |
| 36 Audiology | 44 Osteopathy |
| 37 Physical Therapy | 45 Nursing |
| 38 Occupational Therapy | 46 Pathology |
| 39 Nutrition | 47 Pharmacology |
| 40 Home Economics | 48 Pharmacy |
| 41 Dentistry | 49 Veterinary Medicine |

IX. Education

| | |
|-----------------------------|------------------------|
| 67 Educational Psychology | 76 Physical Education |
| 74 Education | 77 Guidance/Counseling |
| 75 Education Administration | 78 Speech |

X. Business/Public Administration

| | |
|--------------------------|-----------------------------------|
| 51 Public Health | 59 Law |
| 52 Hospital/Health Admin | 60 Industrial Relations/Personnel |
| 53 Public Administration | 61 Business/Commerce |

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